

AMERICAN ARTISAN and Hardware Record

Vol. 81. No. 26.

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\$2.00 Per Year.



FURNACES
REGISTERS
FITTINGS
WOOD FACES
SMOKE PIPE
DAMPER CLIPS
ASBESTOS-
PAPER-PASTE-
CEMENT
FURNACE CHAIN
"HANDY" PIPE

OUR customers are particular warm air heater installers, men who demand prompt shipments and quality goods at right prices.

We have built up our business by giving good service—the kind of service you want.

No matter what you want—if it's for a warm air heating job we have it—everything from high grade pipe and pipeless warm air heaters, to asbestos cement.

Complete stocks of the best of the leading lines are carried at all times and we can fill and ship your order at once.

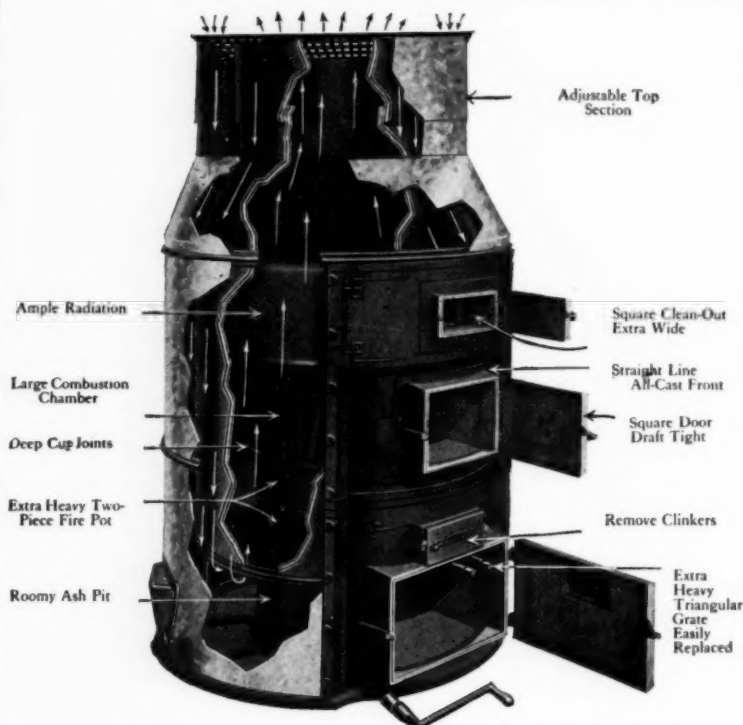
Let us quote you prices on material for your next job.

*Write today for circulars
and full particulars*

The Manny Heating Supply Co.

131 W. Lake St., Chicago, Ill.

THE SENATOR PIPE AND PIPELESS with and without casings and hoods



OUR 1921 exclusive agency proposition is ready. We are now closing with jobbers for connections in various localities in U. S.

Four railroads within 50 yards of our foundry door enable us to make shipments anywhere on short notice.

The price we can quote you will enable you to figure low on competition work. Give your customers a high grade furnace at a low price.

*Write for the details
of our proposition.*

THE WELLSTON MANUFACTURING COMPANY
WELLSTON, OHIO, U. S. A.

Make Your Profits *Real*



Gilt Edge Furnaces

will stand investigation by heating men who want assured profits with the least "after trouble".

The Profit You Figure You've Made
on a heating installation
is a Real Profit Only So Far
As You Can Keep Away
From "Trouble" Service Afterward

GILT EDGE Hot Air Furnaces

are famous for this freedom from trouble service. It's a comfort to know that you can leave a job after completing its installation and not have to worry about "comebacks".

R. J. Schwab & Sons Co., Milwaukee, Wis.

FOUNDED 1880
BY
DANIEL STERN
Thoroughly Covers
The Hardware, Stove,
Sheet Metal, and Warm
Air Heating and Venti-
lating Interests

AMERICAN ARTISAN and Hardware Record

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CHICAGO, JUNE 25, 1921.

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TELL IT TO THEM, MR. MERCHANT!

"I would urge the retail fraternity as a whole, and hardware dealers as a class, to use every effort to bring selling prices down and to make a noise about it.

"It is only common honesty for you to reduce your prices immediately upon the decline of replacement values.

"Having done that come out boldly, in the press or otherwise and state your position—what you have done and what you are going to do to keep faith with the public."

This is not the advice of a manufacturer, nor of a wholesaler, nor of a trade paper editor, nor of a man representing the so-called "general public."

It comes from a retail hardware dealer who has made a success of his business.

The man's name is C. H. Casey, of Jordan, Minnesota. He is one of the directors of the National Retail Hardware Association and is known in his own state and the entire central West as a thoroughly progressive merchant.

Generally speaking, the hardware merchants all over the country have followed the first part of Mr. Casey's advice, but it is also true that many of them have failed to act upon the second part—that of telling the buying public that their prices have been reduced in accordance with the declines in manufacturers' and wholesalers' quotations.

Of course, they do tell it to the particular customer with whom they are dealing at the time, but they are lacking—to a large degree—in the matter of proving their case to Mr. General Public, who must be convinced before a real, steady buying movement will materialize.

The daily newspapers contain almost daily stories of the failure of the retailer to follow the manufacturers' reductions.

Here are the facts, taken from the report of the Bureau of Labor Statistics.

Wholesale prices on food as compared with those of 1913—both for May 1st—showed a purchasing value of 75 cents for one dollar.

On clothing, the percentage is 55. Clothing is far too high in proportion.

On fuel the percentage is 52. Also entirely too high.

On building material—lumber, brick, lime, cement, etc.—the percentage is 49½. Still higher than clothing and fuel.

On furniture and home furnishings, the percentage is 38. Even higher than in the class just previous. On drugs, the percentage is 60. Also higher as compared with food.

On hardware and metals, the percentage is 72. Almost the same as on food items.

If you have been honest with yourself and with your customers, your prices should show approximately the same proportion—and we believe that they do.

But be sure that Mr. John Smith and Mrs. William Jones in your town know that your prices have been reduced in the proper proportion.

This means advertising of the most aggressive sort—with specific items quoted at definite prices, comparative prices, if you please.

And you are able, right now, to build up increased good will and create new customers for your store by just this sort of advertising.

Make a noise, Mr. Casey says!

His advice is sound and practical.

It is being proved every day—everywhere.

Do your share of the work that must be performed in order to get business going right once more.

Random Notes and Sketches

By Sidney Arnold

The truly successful merchant is the one who subjects his methods to frequent analysis and changes, rejects, or substitutes new ways as requirements indicate, says my friend N. A. Gladding, of E. C. Atkins and Company, Indianapolis, Indiana.

There is no sense in wasting time upon any merchandising plan which frequent trial has demonstrated to be more or less unproductive of results, he says. He illuminates his meaning with the subjoined:

"I don't believe whipping does children a particle of good," declared Mrs. Farraday, returning flushed and discouraged from a visit to the photographer with her son Clarence. "Here I've put in more than an hour with that child in that hot room trying to make him look pleasant. I gave him two good beatings but after each he looked glummer than ever."

* * *

My friend Gus Ruhling of Vaughan & Bushnell Manufacturing Company, Chicago, Illinois, tells about a flivver which, in less than a week, broke the arms of four persons who attempted to crank it.

"That's what comes of crossing a bicycle with a mule," he says.

* * *

The barber was working on an ex-service man when my friend E. E. Behler of W. C. Hopson Company, Grand Rapids, and member of the Michigan Auxiliary, happened into the tonsorial parlor in Grand Rapids, Michigan.

Friend Behler overheard the following colloquy:

"Shall I go over the top?" asked the talkative barber, poising his shears.

"Yes, as soon as your gas attack is over," answered the weary customer.

* * *

Life is full of conflicting counsel, declares my friend William D. Biggers of the Continental Company, Detroit, Michigan.

He narrates a pertinent example:

An evangelist had tacked to a tree at the intersection of two roads a sign bearing this advice: "Prepare to meet thy God."

And then along came a man from the state highways department who placed a sign right below it with the single word:

"Detour."

* * *

It is a common failing of most human beings to lay claim to more knowledge than they possess, says my friend Palmer Holmes, Manager Lalance and Grosjean Manufacturing Company, Chicago, Illinois.

The recent list of questions that Edison put up to the college graduates of the country was a sort of a searchlight revealing our general weakness along these lines.

The pretense of knowing more than we know starts early in life, says Brother Holmes. He cites this example:

"So you attend Sunday school and you know your Bible well?" asked a minister of a proud little girl.

"Oh, yes, sir," she answered. "I know everything that's in it."

"Ah, how splendid! Suppose you tell me some of those wonderful things."

"Sister's beau's photo is in it, and ma's recipe for vanishin' cream, and a lock of my hair they cut off when I was a baby, and the ticket for pa's watch. They're all in it."

* * *

In the present uncertainties of farming there may be occasional relief for tillers of the soil in the method suggested by the following story told me by my friend Samuel D. Latty, of Kirk-Latty Manufacturing Company, Cleveland, Ohio:

"I don't believe these gentlemen farmers ever make any money out of it," remarked Brown.

"Oh, I don't know," objected Smith. "They say Johnson makes a good deal of money out at his country place."

"Is that so? What does he raise?"

"Oh, he's conservative. He doesn't raise much—but he always seems to know just when to call."

* * *

The best salesmanship is that which develops the natural talent and expression of the salesman, declares my friend Henry E. Schwab of R. J. Schwab and Sons Company, Milwaukee, Wisconsin.

The man who learns a selling talk by heart and recites it to his prospective customer never quite succeeds in creating the impression of genuineness.

He is at a disadvantage in this respect, that occasions arise for which his prepared talk is not adequate. Then he fumbles and stammers and, often, says ludicrous things.

Here is an illustration which friend Schwab supplies to the point:

An amateur play was being staged and Smith had the traditional single line: "My lord, the carriage waits without."

He had been carefully drilled and thought he was letter perfect until, just before going on, he was seized with an attack of stage fright. Dashing onto the stage, he bellowed:

"My God! The taxi's outside!"

* * *

Hullo!

W'en you see a man in woe,
Walk right up and say: "Hullo!"
Say "Hullo," an' "How d'ye do?"
"How's the world a-usin' you?"
Slap the fellow on his back,
Bring yer han' down with a whack.
Waltz right up, an' don't go slow,
Grin an' shake an' say: "Hullo!"

Is he clothed in rags? Oh, sho!
Walk right up an' say: "Hullo!"
Rags is but a cotton roll
Jest for wrapping up a soul;
An' a soul is worth a true
Hale an' hearty "how d'ye do!"
Don't wait for the crowd to go;
Walk right up an' say: "Hullo!"

W'en big vessels meet, they say,
They saloot an' sail away.
Jest the same are you an' me,
Lonesome ships upon a sea;
Each one sailing his own jog
For a port beyond the fog.
Let yer speakin'-trumpet blow,
Lift yer horn an' cry: "Hullo!"

—S. W. Foss.

George Says That Hardware Business Is Good in Grinnell, Iowa.

Regular, Consistent Advertising Is One of Policies That Have Built Success for the George Hardware Company.

In Grinnell, Iowa, which is a prosperous city of about 5,000 inhabitants, with several manufacturing plants and a fine college, one of the principal retail establishments is operated by a tall, rather slender fellow by name of George.

George is his family name, his initials being C. S. He is the sort of man whom you would feel like

leable Ranges, Quick Meal Oil Stoves, Elgin Thermo Ovens, Apex Electric Washers, and many other well known, trade-marked articles of hardware.

The Senior says that he doesn't sell stoves or washers, or anything else, on the installment plan, but that if a regularly employed workman wants to buy anything in his line, credit is granted him for a certain

SPRING RANGE SHOWING

We invite the public's inspection of our Rust-Proof Monarch Malleable Ranges, which we are now showing in six styles and sizes. Prices of the Monarchs are reasonable and range from \$110.00 to \$120.00 for the plain ranges. Enameled ranges from \$120.00 to \$130.00. These prices are \$25.00 less than the war prices on Monarch Ranges.

SPECIAL Aluminum SALE

Opens Saturday a. m.
 Nine o'clock
 75 Pieces
CHOICE
 \$1.39
 Plain and Colonial Percolators, round Heavy Roasters Two Quart, double Boilers, sets of three Sauce Pans 1, 1 1-2 and 2 qt. Wash Basins
CHOICE
 \$1.39
THE GEORGE HARDWARE COMPANY
 Broad Street

Monarch Features

The Duplex Firebox Draft; Vitreous Enameled Flues and Linings; Oversize Ovens; Extra Large Reservoirs; Extra Heavy Firebox Linings, and Plain Nickel Trimings.
 Over Two Hundred Satisfied Users of Monarch Ranges in Grinnell Vicinity will gladly recommend this Wonderful Range.
CALL AND LET US DEMONSTRATE THE MONARCH
THE GEORGE HARDWARE COMPANY
 Broad Street Phone Number 1

A CITIZEN'S DUTY

1. Vote at All City Elections.
2. Do the Spring Cleaning Right by Painting Up.

Our Paint Department contains all the needs of the professional or amateur decorator.

Prices Are Reduced from 15% to 50% In This Line

A large variety of the following goods makes it possible for you to get what you want, at reasonable prices. We carry all sizes of the following articles:

Flat Wall Paint	Floor Varnishes	Tints and Colors in Oil
House Paint in White or Colors	Interior and Exterior Enamel	Colored Varnish Stains
Screen Enamel and Paint	Roof Paints and Tars	Wood Stains
Linseed Oil	White Lead	Paint and Varnish Brushes
Porch Furniture Enamel	Alabastine	Barn Paints
Interior Wall and Floor Paint	Aluminum and Gold Bronze	Turpentine
Venetian Red	We sell only Standard Brands of Goods Guaranteed in every respect. Save money, material and time by consulting us about your needs in our line.	Wood Filler
		Wall Primers and Sizes
		Porch Floor Paint
		Concrete Floor Paint
		Floor Wax
		Wall Paper Cleaner
		Linoleum varnish

The George Hardware Company
 Broad Street Phone Number 1

YOU FIX THIS

"Chicken Lice are Troubling all the Farmers in the County."

Yes, we know the sentence is ambiguous as it stands but how could you re-arrange it to improve the rhetoric?

One farmer, who knows all about chickens, says it should read, "Lice are troubling all farmers' chickens in this county."

Well, that's an improvement, but a better remedy is to use Our Lice Killer. It's guaranteed to get results.

GEORGE HARDWARE CO.
 Phone No. 1

Newspaper Advertisements Published by the George Hardware Company, Grinnell, Iowa, During the Months of February and March, 1921.

calling George if that had been his given name, but as circumstances are different, he is known to his friends—and he has lots of them—as "C. S."

A good many years ago he started a hardware store in Grinnell, and today he might retire from active work, but he prefers to keep in action, so he is still the managing head of the George Hardware Company, and his business has grown at a considerably bigger rate than the town.

Associated with him is his son Russell who "did his bit" during the World War and now is helping to get things back to normalcy by selling Monarch Mal-

percentage of the purchase, and that a definite understanding is arrived at, before the sale is completed, as to how and when the payments are to be made; in no case has the store been forced to take extraordinary measures to make collection.

"Up to this time, we have not done much in the way of canvassing for new business," says Mr. George, "that is along the line of general solicitation in the homes of the people, because we have felt that the operation of such a method in a community like ours involved too much expense in proportion to the business secured."

"We do, however, keep on the lookout for new trade, such as, for instance, in the matter of coming weddings, removals, new arrivals, etc. In each case we make a definite effort to ascertain what the prospect may be in the market for and to convince him or her that we render the best service.

"An important feature of our sales policy is the regular appearance of our advertisements in the two local papers, and we feel that much of our success is due to our consistent advertising.

"The selling of stoves is one of the important branches of our business, and we carry what we consider a very complete line. For those who want a heavy coal range we have the Monarch Malleable.

"In the enameled line we feature Quick Meals, and we also sell a great many Quick Meal Oil Stoves.

"We have come to the conclusion that the really high class oil stove has graduated from a seasonable article into the class of the "all-year-round," and this spring we have already sold as many Quick Meal Oil Stoves as we generally sell in a whole year. People who live in warm air furnace heated homes really have no need for a coal range because their kitchens are warm.

"In connection with our growing oil stove business we have worked up quite a sale for separate ovens, specializing on the Elgin make, which are very handy and serviceable—and incidentally, they yield a good profit.

"We give preference in our buying to nationally advertised lines, because we feel that a certain percentage of 'sales resistance' is removed by this advertising, but of course we make sure also that the price is not unduly high. It costs money to advertise, we know, but there is no reason why the retailer or the consumer should pay a premium because of that advertising."

As mentioned in the foregoing, Mr. George advertises regularly in the two newspapers published in Grinnell, and his advertisements are never repeated. Sometimes his announcements are of a more or less general character, but in each case he has something specific to say about some particular article or line of merchandise.

In the accompanying illustration are shown four samples of the advertisements run by the George Hardware Company. They range from 3 columns to 1 column in width and from six to thirty inches in size. All of them are of the sort that will bring customers into the store.

Replies to Credit Men's Queries are Hopeful.

Although many big business men do not believe the bottom of the present decline has yet been reached, they expect business to be normal this Fall. Dr. John Whyte, director of research, National Association of Credit Men, in the June issue of *The Credit Monthly* makes public the replies to a questionnaire from 48 manufacturers, wholesalers and bankers throughout the country. A summary of the answers:

1. Do you believe that we have reached the bottom of the decline? If not, when do you expect it?

The majority of the 48 replying to this question believe that the bottom of the decline has not yet been

reached. The prices of numerous raw materials such as cotton, wool, hides, copper, etc., are regarded as being as low as they are likely to go, but commodities into which these raw materials go are held to be subject to still further declines. These declines will not be precipitate but gradual; and the degree and rate of decline will depend largely upon the reduction of labor, transportation and overhead costs—a reduction which is confidently expected as a natural development in the readjustment of prices to a new stable price level. Particularly, representatives of such lines as shoes and textiles believe that a "temporary stability" of prices has been reached in their lines, and that any further reductions must wait upon a reduction of the costs mentioned above.

2. Are you planning for anything like ordinary business in the Fall?

Twenty-eight (61 per cent.) of the 46 answered yes to this question. A large number of these are counting upon the Summer and Fall crops to thaw frozen credits and revive buying in their communities. The merchants of the South, where crops are not so diversified as in some other sections, are not quite so optimistic about fall business, and qualify their hopes by saying that a great deal depends upon the price of cotton. A very large majority of the dealers in non-durable and semi-durable commodities (which belong in the category of necessities, and for which there is normally a stable demand, e. g. groceries, clothing, shoes, dry goods, etc.) are hopeful of normal business in the Fall and are planning for it. Dealers in such commodities as machinery, machine supplies, steel products, etc., are looking for an improvement, but are not counting on ordinary business this Fall. Two merchants who do exporting declare that they are planning to do normal domestic business but subnormal foreign business.

3. What are your general impressions of the present situation and the immediate future?

A symposium of the 48 answers to this question is interesting and valuable. There is a feeling that the worst is over and that slow, gradual improvement may be expected from now on. Some of the outstanding impressions are these:

1. Buying is and must be largely hand to mouth all along the line, until the price relationship between commodities reaches nearer a normal state of relative values.

2. A willingness to accept lower profits and wages would hasten stabilization.

3. Normal business activity can not be expected until the farmer's purchasing power has been revived.

4. The farmer can not regain his normal purchasing power until this year's crop is harvested, and unless its yield and market price enable him to exchange his commodities for other commodities without loss to himself.

5. A great deal depends upon a restoration of more normal conditions in Central Europe and in the world at large.

There is an underlying tone of optimism in the answers to this questionnaire which will contribute in no small measure to the solution of America's business problems.

Twenty-second Annual Congress of National Retail Hardware Association Shows How to Increase Profits.

Service Is the Word Which Was Most Frequently Used and Most Sharply Accentuated in All the Deliberations of the Congress.

Very descriptive of the nature and purpose of the annual meetings of the National Retail Hardware Association is the term chosen to designate them. The meetings are not called conventions. They are defined as a congress. We are familiar with the word "congress" as conveying the thought of a national body of representatives.

The delegates from the various state associations of hardware merchants who attended the Twenty-second Annual Congress of the National Retail Hardware Association, in Seelbach Hotel, Louisville, Kentucky, June 20, 21, 22 and 23, 1921, were truly representative of the best interests of the trade throughout the United States. They came to Louisville not, indeed, to make laws which have the force of statutes to be obeyed, but to compare, analyze, and sift out of manifold discussions the most practical counsel and direction for the betterment of hardware retailers throughout the country.

Monday, June 20, 1921.

Preliminary to the regular work of the convention, a meeting of the Board of Governors was held at 9:30 a. m. Monday.

Monday afternoon at 2:00 o'clock the annual conference of the Board of Governors with state presidents and secretaries took place.

At 7:30 a. m. there was a joint meeting of the Board of Governors and officers of Hardware Mutual Insurance Companies.

Tuesday, June 21, 1921.

More than five hundred delegates were assembled at the opening of the first session of the congress of the National Retail Hardware Association, in Hotel Seelbach, Louisville, Kentucky, Tuesday morning, June 21st.

Under the leadership of E. M. Healey, Dubuque, Iowa, Vice-President of the Association, the delegates sang the national anthem "America." Then they joined right merrily in the singing of "Smiles," "There's a Long, Long Trail," and the "Mummy Song."

President Matthias Ludlow gave a brief address of welcome and the assembly sang "My Old Kentucky Home," as a tribute to the host of the convention, the Kentucky Hardware and Implement Association.

Following an invocation by William Moore, of Detroit, Michigan, a brief memorial service was held for two former Presidents, W. P. Borgardus, of Mount Vernon, Ohio, and H. G. Cormick, of Centralia, Illinois, and a Director, Francis B. Boyce, of Wellesville,

New York, who died during the past year. Ex-President J. M. Campbell, of Bowling Green, delivered the memorial address.

Vice-President D. M. Healey made a presentation of the Association ring to President Ludlow on behalf of the organization.

A statistical study of "The Business Outlook" was given to the congress by Ralph B. Wilson, Director of Service, Babson's Statistical Organization, Wellesley Hills, Massachusetts. Mr. Wilson instructively analyzed facts and figures in their application to the hardware trade in such a way that the members might more accurately determine the trend of finances and commerce with relation to their business.

The annual message of President Matthias Ludlow consisted of a review of the achievements of the organization during the past year and an analysis of present tendencies together with suggestions for future guidance.

The annual message of President Matthias Ludlow consisted of a review of the achievements of the organization during the past year and an analysis of present tendencies together with suggestions for future guidance.

Summary of Annual Message of President Matthias Ludlow, Delivered June 21 to the Twenty-second Congress of the National Retail Hardware Association in Louisville, Kentucky.

"We have struggled through a trying period, but with the toil we have gained strength. This

is not the hour for looking backward but rather it is a time for gathering the forces of experience and achievement and a time to pack these in our kit bag of life for daily use as we journey on.

"In the year just closed we have been successful in many matters of great importance to our industry. In fact, we must admit, in view of the peculiar difficulties of the business year, that this Association has to a large degree fulfilled the expectations which we held when I was honored a year ago with the Presidency.

"The year, I think, will show greater gain in membership than in any previous year, and we have the distinguished honor and great satisfaction of welcoming at this Congress delegates of the California Retail Hardware and Implement Association of both the Northern and Southern Divisions.

"There has come to us a spirit of fraternity which is even more desirable than an increase in numerical strength, and I have sensed a growing atmosphere of intimate friendliness at gatherings of hardware men to a gratifying extent.

"Of all the organizations of which I have knowledge, there is none that can boast of more sincere and loyal executives than our National and state bodies.



Matthias Ludlow, Retiring President.

The Secretaries deserve credit for the manner in which they throw themselves into their work in the interest of the trade, and they should be encouraged in strengthening the ties which bind the state associations to the National and appreciating the vital relation which exists between these bodies.

"The price information service to retail hardware dealers that many jobbers throughout the country are giving has become such a valuable institution, that we should endorse it in every manner possible and encourage its continuance.

"A survey of existing business conditions, I find, develops the fact that in many of the smaller communities the hardware dealer is holding his own, the volume of business in many instances being equal to and in some cases even ahead of 1920. In industrial

ment itself sought to encourage thrift and discourage buying?

"Let us not be confused by discontent. The country is suffering from a tax system which might have existed when tremendous war profits were being made, when everybody was employed, and when money flowed plentifully, but the war is over. No longer are war profits being made, and unemployment is general.

"A proper adjustment of the tax situation, I believe, will bring back prosperity, and it behooves every business man to study taxation carefully and broadly in the light of its relation to business.

"Business men must think. They must study conditions as never before. They must jealously protect their fair name and they must justify their existence in the economic scheme of things. A man can not stand alone in times such as these, and those through which we have passed. He must syndicate his interest, associate, combine with others in his own line of business endeavor, to obtain the best thought of his community of interests. No hardware man can afford to stay out of the hardware association.

"I would not feel that I had done my full duty if I did not refer even in this small way to acquaint those who have not come into direct contact with the National Headquarters, as to the efficient and conscientious work of our Secretary-Treasurer, Mr. Herbert P. Sheets, whose loyal and intelligent guidance has built up a splendid working force at headquarters and in the field. This staff is a credit to the personnel and to this Association. The National Association is, indeed, fortunate in having a man of Mr. Sheets' type and personal equipment as manager of its office.

"The departments under Messrs. Miles, Douglas and Nichols have shown creditable work during the year. The work is growing rapidly, but is well handled. Sales promotion work, the store and stock arrangement department, consultation and special assistance department, special information or special service department and the accounting department, are all developing as they are being more widely used, and are therefore becoming more and more valuable to the association.

"Although my term of office expires at this Congress, I am not giving up the ghost. I shall be with you. I shall continue to work for the Association and maintain an active interest in all that pertains to it."

At the end of his address President Ludlow appointed the following committees:

Nominating:

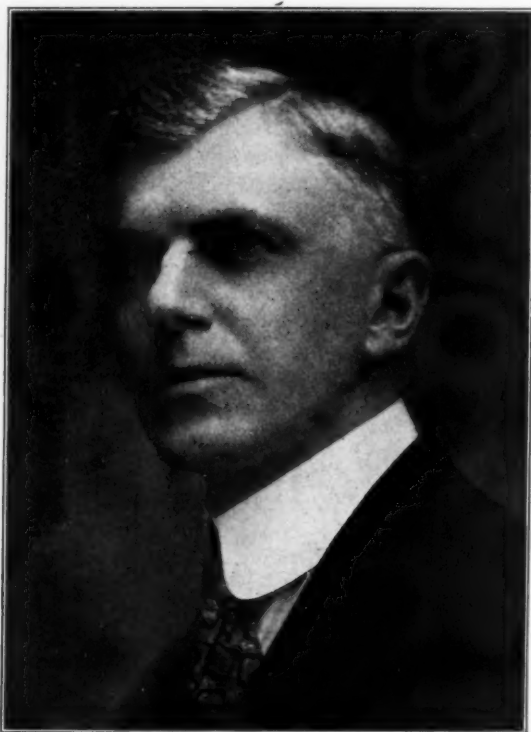
E. E. Mitchell, Morrillton, Arkansas, Chairman; Charles F. Hauck, Springfield, Ohio; Roy R. Wilson, Decatur, Illinois; A. G. Broadie, Williamport, Indiana; J. B. McCarroll, Ottumwa, Iowa; J. W. Tilton, Carlisle, Kentucky; N. G. Popp, Saginaw, Michigan; W. H. Ryan, Little Falls, Minnesota; A. C. Lamson, Marlboro, Massachusetts; J. G. Cornell, Brooklyn, New York; Paul N. Allen, Jamestown, North Dakota; H. O. Dowling, Ozark, Alabama; J. T. Graves, Roanoke, Virginia; O. P. Schlafer, Appleton, Wisconsin; L. C. Yaeger, Tallahassee, Florida.

Resolutions:

Frank E. Strong, Battle Creek, Michigan; W. W. Watt, Charlotte, North Carolina; A. L. Lahr, Lincoln, Nebraska; W. W. Bennett, Cortland, New York; R. F. Faucett, Salem, Ohio; T. O. Jones, Tarentum, Pennsylvania; O. E. Stout, Texas; R. A. Stingley, Pelahatchie, Mississippi; C. M. Pool, Chattanooga, Tennessee; H. S. Hitchcock, Woodbury, Connecticut; A. T. Byron, Owingsville, Kentucky.

Place of Meeting:

C. T. Woodward, Carlinville, Illinois, Chairman; J. M. Anderson, Columbia, South Carolina; G. A. Gutman, Willows,



E. M. Healey, Newly-Elected President.

centers, I find that the volume of the retail hardware business is running behind anywhere from 25 to 50 per cent, and the greatest problem facing these dealers is in keeping their overhead expense down in the face of decreased business.

"The average hardware clerk is receiving a higher wage than he did in pre-war times, and I think all of us should make every effort to still continue this wage. There is no question that most of our employees were underpaid before the war. Our job, then, seems to be to surround ourselves with men who are worthy and try and show them that they must produce and do more work than ever before if they want to keep this high wage.

"It is my belief that there is no 'buyers' strike' and that we have had an overproduction of false prophets and an underproduction in industry. The truth is that the people are out of work, they have no money to buy, and that a buyers' strike could not be organized nor could it come spontaneously. It is the truth that when the American people have money they spend it. Did they stop buying luxuries when high war wages were being paid and patriotic societies and even the govern-

California; H. J. Detthof, Muscatine, Iowa; H. A. Peterson, Mitchell, South Dakota; P. A. McGuire, Arcadia, Louisiana; J. O. Smith, Deer Creek, Minnesota; H. J. Hall, Lincoln, Nebraska; L. W. Thompson, Woburn, Massachusetts; Miles J. Watson, Oberlin, Ohio; C. W. Scarborough, Pittsburgh, Pennsylvania; T. B. Howell, Richmond, Virginia; C. M. Rinie, St. Louis, Missouri; G. W. Dudley, Tishomingo, Oklahoma; E. L. Almand, Social Circle, Georgia.

Suggestions:

M. D. Hussie, Omaha, Nebraska; Frank Burke, Waukegan, Illinois; R. C. Jackson, Dixon, Kentucky; C. A. Sturmer, Port Huron, Michigan; J. O. Smith, Deer Creek, Minnesota; H. W. Colton, Cambridge, Massachusetts; Fred Neile, Zanesville, Ohio; H. K. Thomas, Churubusco, Indiana; Louis Hirsig, Madison, Wisconsin; C. M. Love, Huntington, West Virginia; E. D. Holmes, Casper, Wyoming.

Sergeant-at-Arms:

A. J. Hoffman, Murray, Iowa.

Assistant Sergeant-at-Arms:

J. W. Tilton, Carlisle, Kentucky.

Tuesday afternoon's session began with the report of Secretary-Treasurer, Herbert P. Sheets, who gave a brief but comprehensive statement of the year's activities and progress of association business. The chief points of his report are as follows:

Digest of Annual Report of Secretary-Treasurer Herbert P. Sheets to Twenty-second Annual Congress of National Retail Hardware Association June 21, in Louisville, Kentucky.

"It is gratifying to report that in consequence of the energetic work of the state secretaries our membership has been largely augmented, in spite of rather adverse conditions for at least one-half of the association year, and notwithstanding the fact that many of the additions were made in territory supposed to be already near the 100 per cent mark.

"Our present membership of 19,625 compares with 17,269 reported a year ago, and shows a gain of 2,356, or 13.6 per cent.

Secretaries' Conference.

"The first conference of secretaries under the new plan of having these meetings directed by the National Association was held in South Bend, Indiana, last October. All but six secretaries were present. Four field men were there and all department heads of the National office.

"The meeting covered practically a full week, two long sessions being held each day. Interest did not lag at any time, and practically every phase of association work was thoroughly covered.

"Definite decisions were reached on all subjects of importance, these being in the form of committee reports adopted by the conference.

Group Meetings.

"Group meeting sentiment has grown so rapidly that from practically all sections of National Association territory have come reports of local and district gatherings of marked interest and value to the dealers present.

Store and Stock Arrangement.

"During the year complete plans and specifications were drawn for the rearrangement of thirty stores; besides which there were a number of designs for store fronts, special fixtures and display stands. A large number of inquiries are still pending.

"Thus far all work of this character has been specially prepared from rough plans and suggestions submitted by members. This has naturally involved a lot of time and expense to the association, but no charge has been made for the service.

Field Service.

"Demands upon the National office for field service are constantly increasing, but the territory is so vast that this work must be performed largely by the state associations, with the National acting as advisor and assistant.

Special Service Bureau.

"Nearly three thousand inquiries for special information have been answered by the Special Service Bureau during the past year. This is an increase of 68 per cent over the previous year and indicates that the membership is becoming more fully acquainted with the value of this service.

"It is well to remember, in this connection, that nearly all of the state associations have information departments, so that to a large extent the Special Service Bureau receives inquiries which the state departments do not cover.

Sales Promotion Department.

"The Sales Promotion Department was started a year ago. Its work has been largely preparatory; getting contact; learning the kind of advertising and selling assistance which will be most helpful to members.

Trade Cooperation.

"Without desire to promote selfish ends and with no special interests to serve, we have adhered to our usual policy of watching National legislative tendencies and protesting certain detrimental measures rather than proposing new. We believe the need is for less rather than more legislation.

Legislation.

"Complying with your instructions of a year ago, your officers have indicated



Herbert P. Sheets, Re-elected Secretary-Treasurer.

their desire to cooperate with the Department of Commerce, Chamber of Commerce of the United States and other agencies in any constructive undertaking to make distribution more scientific and economical.

"In personal conference with the new Secretary and by correspondence, the facilities of your organization to assist in solving some of the intricate problems of distribution have been placed at the command of the Commerce Department.

"Mr. Hoover has stated his intention of giving domestic commerce greater consideration than it has heretofore received and has expressed his wish for the greater cooperation of trade organizations and similar bodies. We have made known our desire to be of service and are ready to lend the Department any assistance in our power.

Research.

"Considerable research has been conducted during the year and much valuable data compiled. This will be of material value to us in determining the lines along which our best work can be done. More and more manufacturers, advertising agencies, universities,

and other institutions are coming to us for information relating to the hardware trade. They very properly look upon our office as the logical headquarters for such data.

Year of Progress.

"As we see the past twelve months in retrospect and review the work done and results accomplished, we believe the year has been one of progress from every service standpoint. While we have a financial deficit, it was incurred in the expansion of service. And service, not money-making, is the vital objective of the organization. Money-making is only a means to greater service.

"National and state associations have worked more closely together; members have utilized association service in larger measure than ever before, and the organization has grown in prestige with its members and all branches of the hardware trade.



M. D. Hussie, Member Advisory Board.

"Throughout his term of office President Ludlow has given his time and energies to the work of the organization in such unstinted measure as few men could have done. With high ideals and constant touch with the association's activities, through frequent visits to National headquarters and almost daily correspondence, his counsel was keenly appreciated by the headquarters staff to whom is delegated the direct management and conduct of the association's business, and my co-workers join me in simple tribute to his leadership and helpfulness."

At the close of Secretary-Treasurer Sheets' report, George M. Gray, of Coshocton, Ohio, delivered the report of the Auditing Committee.

The subject of "Membership Service" was dealt with in short talks by LeRoy Smith, San Francisco, California; F. X. Becherer, St. Louis, Missouri; George A. Fiel, Boston, Massachusetts.

How secretaries determine what shall be done to get the utmost results for the membership and how they secure the cooperation of the rank and file in achieving this purpose were told in terse speeches by B. Christian-

son, Stevens Point, Wisconsin; Sharon E. Jones, Pittsburgh, Pennsylvania; and L. P. Biggs, Little Rock, Arkansas. The final discussion of Tuesday afternoon's session had for its topic, "Are Hardware Retailers Following Price Declines?"

C. H. Casey, of Jordan, Minnesota, said that "while there are some dealers who have been tardy in marking down their prices and are trying to hold their prices higher than replacement values warrant, hardware men generally have been the leaders in putting new and lower prices into effect.

"While I don't want to seem ungrateful, yet the cartoon in the Literary Digest referring to the retailers' 'high rentals,' 'high light bills,' 'high cost of labor,' as being rocks on the road to 'lower prices,' absolutely does not apply to us. If the makers will reduce their cost and give us the hardware at a low and reasonable price we will agree to deliver it over to the consumer without adding a profiteer's margin."

The answer of A. M. Hoffman, of Sedalia, Missouri, to the question, "Are Hardware Retailers Following Price Declines?" was strongly affirmative as regards Missouri dealers.

"Practically every hardware dealer has reduced his prices fifty per cent on galvanized tubs and pails, sash cord, linseed oil, turpentine, and every other article that replacement values would allow such reduction. It is also a fact that practically every hardware dealer has reduced his prices ten to twenty-five per cent, according to the market change on mixed paint, nails, builders' hardware, aluminum ware, enameled ware, bolts and many other articles.

"In future," said Mr. Hoffman, "the retail hardware dealers will profit in proportion to the service they are willing to give. A fair price based on replacement values is one of the best services we can render. Success in 1921 means better buying, better advertising, and better selling."

Before the close of Tuesday afternoon's session the Kentucky Hardware and Implement Association performed a characteristically Southern courtesy in sending a gorgeous corsage bouquet to each one of the ladies present so that she might wear it at the reception and dance held Tuesday evening at 8:30 o'clock on the roof of the Seelbach Hotel.

Wednesday, June 22, 1921.

The morning session of Wednesday began with an account of the Association's field service by S. R. Miles, Argos, Indiana; D. M. Andrews, Minneapolis, Minnesota; H. R. Minnich, Union City, Indiana; and Albert Bojens, Atlanta, Iowa.

The manner in which local gatherings stimulate friendship and cooperation, business progress and better service to the community was the next subject discussed before the convention. Under the theme, "Group Meetings," the speakers were G. F. Sheely, Argos, Indiana; Guy W. Hamilton, Waynesboro, Virginia; W. G. Branson, Lima, Ohio, and George W. McCabe, Petoskey, Michigan.

Speaking on "The Future," A. R. Sale, Mason City, Iowa, discussed ideal cooperation, problems that await solution, the bounds of organized effort, better business men and methods, public interest and service, and open-mindedness and vision.

The next speaker was William Heyburn, President of the great house of Belknap Hardware & Manufacturing Company, Louisville, who spoke on "Present Economic Conditions as They Affect the Hardware Trade." Excerpts from his very instructive and well delivered address follow:

Excerpts from William Heyburn's Address on "Present Economic Conditions as They Affect the Hardware Trade."

"It is probably safe to say that the actual stocks of goods carried in all lines in this country at present are not more than fifty per cent of those carried on October 1st, 1920. In saying this, I am including the goods for which buyers had obligated themselves on October 1st, 1920, and the statement is well within the mark. In addition to this, vast quantities of Government-owned goods have been sold for civil uses.

"It is my opinion that at this time a great majority of the surplus stock on hand at high prices, on October 1st, 1920, is liquidated.

"From previous experience it would seem to be clear, that we are well past the acute stage of our financial and business indigestion.

"Drastic price reductions have been made in many lines; others are being made that either have already brought, or will surely bring, values down to the point where we may feel that we have reached a trading basis, or a point where goods will go freely into consumption, and that, of course, is the commercial test of the correctness of prices.

"I can see no reason why, in a great country of varied production, where people are now, or shortly will be, largely out of debt, there should fail to be a free distribution of goods this Fall. Next year will almost certainly see the beginning of a great building era. It is my belief that whatever building costs are established in the early part of 1922 will be low water mark for several years, and that those who wait longer with their building programs will find it difficult to secure lower prices.

"Next year should also bring, if our investment bankers and foreign friends will allow us to use some of our own capital, the re-equipment of the railroads, and the beginnings of new construction of interurban railroad connections.

"While we are waiting for the next favoring tide to return, let us note that those manufacturers who have reduced their prices to the point where they correspond with present conditions, have made their contribution.

"I have thought for some time, and think now, that, in view of the great inflation in the cost of labor, we can not expect to return to the price levels of 1913-14, when business was unduly depressed, and largely unprofitable; but I do believe that the industries that can not accommodate themselves to a maximum price of 50 per cent above 1913-14 prices—with possibly some additional allowance on certain heavy staples for increases in freight rates—will find themselves out-classed, either by aggressive competitors or by importation.

"We must realize that there is an inconsistency between the present general rate of factory production of 20 to 40 per cent capacity and the rate of public consumption, which is doubtless much higher—probably

60 to 70 per cent in actual goods; this condition, of course, results in reduced stocks and inevitably increased buying power, once confidence is restored."

Answering the question, "What Is Profit?" Albert Zettler, Columbus, Ohio, made it clear that the retailer's profit is a far different thing from the margin between wholesale price and retail price. His cost of doing business plus the actual profit he receives is the price the public pays him for performing his function as distributor and the speaker emphasized the necessity of the merchant's making certain that his costs are not excessive and that he is giving the public all it pays for. "The public is satisfied with no less," he said, "but asks more." The other speakers on this subject were H. R. Beatty, Clinton, Illinois; F. H. Goodfellow, Altoona, Pennsylvania, and Ed Jarman, Jr., Baxley, Georgia.

Speaking on the topic of "Cutting Costs," J. F. Deuth



George M. Gray, Re-elected Director.

of Forreston, Illinois, declared that the retailer who eliminates dead stocks, curtails expenses and creates confidence in his trade, hits costs a solar plexus blow. It is the retailer's duty, he continued, so to educate himself in his line that he can give honest advice and helpful suggestions, and the retailer has no reason for being in business at all unless he can give his customers the best values possible at costs comparing favorably with other methods of distribution. The other speakers on this subject were W. W. True, Newport, Vermont; E. M. Whitfield, Sioux Falls, South Dakota, and G. S. Meserve, St. Augustine, Florida.

Thursday, June 23, 1921.

The topic of "Business Ethics" was the first item on Thursday morning's program. Jay Brackett of Ilion, New York, discussed the subject under three headings, namely, "first, keeping faith with the manufacturer, the jobber, and our customers; 2nd, our duty to the community in which we do business; and, 3rd, guarding our credit." Others who discussed the topic were R. W. Hatch, Milledgeville, Georgia; C. M. Love, Huntington, West Virginia; G. F. Haecker, Eureka, Illinois;

E. Houghtaling, Fairmont, Minnesota; and A. E. Lecombe, Greenville, Alabama.

"Collective Buying" was the theme of brief but suggestive speeches by A. J. Linn, Sanborn, North Dakota; C. A. Knutson, Clear Lake, Iowa; A. J. Rankin, Shelby, Michigan; and Daniel Rinehart, Waynesboro, Pennsylvania.

Mr. Rinehart declared that our system of distributing goods from factory to consumer is on trial.



J. R. Gamble, Member Advisory Board.

He said that if merchants "will stand squarely back of the right in the matter and go to the extent of refusing to buy except from manufacturers and jobbers who will respect the rights of the dealers, the present plan of sale, carrying water on both shoulders, will be broken up.

"Retail dealers," he added, "having performed a satisfactory service and having been the practical outlet for the manufacturer, should at this time have the proper support from the manufacturers. This support and protection can not take any other form than strict adherence to the policy of selling only to the legitimate retail dealer and refusing all others."

The practical benefits to be had from price information service were discussed by Scott Kendrick, Ortonville, Michigan, L. C. Peck, Berlin, Wisconsin.

"A few jobbers who started in giving the price service every three months," said Mr. Peck, "but the fluctuation of price was so great that the same service was requested that was given the salesman. This request was met by a few jobbers, so that the merchant might have at the small cost of eighteen dollars a year the same prices as the salesman on the road."

Mr. Peck urged the members to get the price service; to use it; to be independent in buying; not to expect the service free; and to be honest with jobber and customer.

The main theme of discussion at Thursday afternoon's session was "Service and Selling." Speaking on the theme, D. Wray DePrez of Shelbyville, Indiana, said that "the first great service in a hardware store is

having the right goods at the right prices when the customer calls for them. The second great service is letting the customer know by judicious advertising that we have the goods for him to call for.

"My idea of the third great service in a hardware store is selling a good article in a way that is attractive," said Mr. DePrez, "and in treating a customer in the way he likes to be treated."

Taking the theme of "Service and Selling" from the angle of knowledge, S. R. Derryberry, North Platte, Nebraska, said: "We should study store arrangement, proper display of goods, neat and attractive window display, changing them often, advertising in your local papers at the same time you display in your windows, and remember that every article in your store from the highest priced one down to a tenpenny nail all have talking points that will convince the customer and consummate a sale if you will only take the trouble to study them."

The recommendations of the Suggestions Committee to the Board of Governors, included the following:

1. That Field Service Men pay more attention to advertising—showing the dealer how to develop and improve his advertising.
2. That the National and State Associations continue the policy of holding group meetings, as these have been found very helpful.
3. That all State Associations should use a uniform blank for membership applications.
4. That the National officers make every effort to



F. E. Strong, Re-elected Director.

secure satisfactory price service for dealers.

5. That Field Service Men conduct schools for retail hardware salesmen.
6. That Annual Congress be held any month except June, July or August.
7. That Past Presidents be named as permanent delegates to Annual Congresses.
8. That only members of Association be entitled to buy Association insurance.

9. That place of meeting be selected by Board of Governors instead of by Committee.

10. That pricing and tagging be done by unit system.

11. Opposition to Shields Bill, regulating manufacture and sale of fire arms.

The following recommendations as to resolutions, were made by the Board of Governors:

1. That the Association continue its policy on Stephens Price Maintenance Bill.

2. That the Association endorse program of legislation by American Legion for immediate relief of disabled soldiers and sailors.

3. Sympathy with Near East Relief.

4. Endorse passing of necessary legislation to insure immediate funds for road building.

5. Commend wholesalers who are furnishing loose leaf catalogs and price sheets.

6. That retailers accept responsibility for railroad shipments properly packed and not deduct from invoices for damage in transit.

7. Dealers should hold wholesalers' price quotations in strict confidence.

8. Urge prompt payment of invoices by dealers.

9. Endorsement of State and National Association Field Service.

10. Dealers' selling prices should be based upon market prices regardless of cost.

11. Thanks to the Kentucky Association and to the Belknap Hardware & Manufacturing Company for splendid entertainment.

The final session of the twenty-second annual congress National Retail Hardware Association ended Thursday afternoon with election of officers for the ensuing term as follows:

President: E. M. HEALEY, Dubuque, Iowa;

Vice-President: C. H. CASEY, Jordan, Minnesota;

Secretary-Treasurer: HERBERT P. SHEETS, Argos, Indiana.

Directors—

HAMP WILLIAMS, Hot Springs, Arkansas;

F. E. STRONG, Battle Creek, Michigan;

GEORGE M. GRAY, Coshocton, Ohio;

R. W. HATCHER, Milledgeville, Georgia;

W. L. HUBBARD, Scottsburg, Indiana;

H. R. BEATTY, Clinton, Illinois;

GUS ALBRIGHT, Louisville, Kentucky;

R. J. ATKINSON, Brooklyn, New York.

Conventionalities.

Including delegates from Minnesota, Iowa, Wisconsin, and Illinois, about 125 persons were on the Special Train which ran from Chicago to Louisville. It was a "personally conducted" journey, under the thoughtful, diligent, and experienced guidance of H. C. Vandervoort of the Chicago office Pennsylvania System. Boxes of candies were presented to the ladies and cigars to the men of the party by the Chicago Retail Hardware Association. Ample refreshments, liquid and otherwise, were available throughout the trip.

Each person, when registered at headquarters in Seelbach Hotel, was given a coupon book of tickets for the various entertainments of the week and a very fine souvenir paper-cutter of genuine bronze, bearing the inscription: "The Sun Shines Bright in My Old Ken-

tucky Home."—N. R. H. A., Louisville, Kentucky, June, 1921. These were with the compliments of the Kentucky Hardware and Implement Association.

The Entertainment Committee, headed by President J. W. Tilton, Secretary J. M. Stone and Gus Albrecht, of the Kentucky Association, have every reason to feel proud for the manner in which their plans for the pleasure of the delegates, their ladies and other guests, were certainly carried out in the best possible manner. That their work was appreciated very highly was evident from the many expressions of praise that came from those who spoke to the writer about the splendid program.

The Wednesday evening boat trip on the Ohio River, at which the Belknap Hardware & Manufacturing Company was host, was one of the most pleasant social affairs of the week. There was wonderful instrumental music and singing, and in spite of the heat, the great dancing floor of the boat was crowded all evening. Ice cream and other cooling refreshments were served.

The dance Tuesday evening at Hotel Seelbach was also patronized by a capacity crowd. There was lots of fun and cold, "soft" drinks were free for the taking.

Wednesday afternoon the ladies enjoyed a theatre party at Louisville's newest show palace, the Rialto.

Thursday forenoon, the ladies were taken for an automobile ride through the three wonderful, natural parks, Shawnee, Iroquois and Cherokee, ending up at the Louisville Country Club where an elaborate chicken luncheon was served.

In the evening special cars were provided for the delegates and guests to visit the famous Fountain Ferry Park where all sorts of entertainment was provided, including a vaudeville program at the Park theatre.

A large number of the visitors left Friday morning on a special train for a tour through Mammoth Cave and upon their return to Louisville, about 9 p. m., the universal opinion was that their trip had been most wonderfully interesting.

Disston Official Passes Away.

After many years of valuable service, E. F. Cooper, Mill Goods Sales Manager of Henry Disston & Sons, Philadelphia, Pennsylvania, passed away June 10th in that city.

Fifty years ago he entered the employ of Henry Disston & Sons. He worked his way up through the ranks by diligence, loyalty, and ambition.

His amiable character, his integrity and justice in dealings—both business and personal—his ability to give himself in service won for him the respect and admiration of those who came in close contact with him.

He is survived by his wife, two sisters, Mrs. Burkholder, Mrs. Carter, both of Philadelphia, and three brothers, John L. and Charles H., both Disston salesmen, and George M., assistant superintendent in charge of the Disston Band Saw Department.

Hardware Company Is Chartered.

Marable Hardware Company, Clarksville, Texas, has been incorporated with a capital of \$60,000 by F. F. Marable, J. E. Spencer, and C. M. Kennedy.

Good Ideas for Window Display

*Practical Lessons from Exhibits in AMERICAN ARTISAN
AND HARDWARE RECORD Window Display Competition.
How to Get More Passers-By to Come into Your Store.*

WINDOW DISPLAY OF TOOLS IS WELL DESIGNED.

Photographs do not always bring out the perspective of an arrangement of goods in a window display.

That is why the excellent exhibit of tools shown in the accompanying illustration produces the impression at first glance of an overcrowded window.

As a matter of fact, however, if one had a clear perception of the perspective of this window, the impres-



Window Exhibit of Tools Devised and Put in Place by F. Hoemmelmeyer for F. and H. Hoemmelmeyer, 1821 Vine Street, Cincinnati, Ohio.

sion of overcrowding would disappear.

The truth is that the exhibit was not overcrowded. It was carefully devised and put in place by F. Hoemmelmeyer for F. and H. Hoemmelmeyer, 1821 Vine Street, Cincinnati, Ohio.

The articles were arranged in groups, each group being placed on a separate panel with orange color background.

Each group of articles is composed of the same class of goods.

For example, there is a panel with pliers and pincers. No two of these articles are alike yet all belong to the same kind of goods.

Price tags are generously used throughout the exhibit.

This is a sort of a window display which not only arrests attention by the clear and sharp lighting effects, but which holds the interest of the observer because of the orderly arrangement of the articles on display as well as for the reason of the frank statement of prices on practically all of the articles shown.

Answers John R. Thompson's Attack on the Revolver Industry.

TO AMERICAN ARTISAN AND HARDWARE RECORD:

In looking over your issue of June 11th, I notice your editorial in reference to the advertisement of John R. Thompson, 350 North Clark Street, Chicago, Illinois, reading as follows:

I will pay \$1,000 to any one who will give one good reason why the revolver manufacturing industry should be allowed to exist in America and enjoy the facilities of the mails.

JOHN R. THOMPSON.

I am moved to inquire the reasons that prompted this successful merchant to put out such an offer. In the first place, I don't think there is any danger of any of his correspondents getting the \$1,000, because any reason that should be advanced will not be sufficient for Mr. Thompson to pay out the money, and if he really wished for not one reason, but several, it would have been a most easy matter, as well as an economical procedure to look over the pages of the Chicago papers in which he advertises. A foolish proposition of this kind is not worthy of the serious attention of any reader.

Now, as for the law abiding citizen to have the right to own and use weapons, this is his inalienable privilege, otherwise the Constitution of the United States means nothing.

There is a great percentage of our people that look upon a defensive weapon just the same as they do upon a doctor. They are in good health, they have little use for the medical fraternities and ridicule them upon every opportunity, but when sickness or an accident happens, then it is "Oh! Doctor, come quick, please." If one is to argue that his own life, property, wife and children are worth nothing, and do not need protection, then such a man is dangerous to the community, and at heart you will find him a near anarchist or a parlor Bolshevik, at best.

Everyone with even a reasonable amount of intelligence knows that hold-ups and burglaries occur when the policemen are not around, and I personally know this is a fact, because during the past fifteen years I have been burglarized just exactly seven times, twice in my place of business, once in my home and four

times in a cottage that was locked up and unoccupied. In only one instance was the culprit brought into court, and he was arrested by a private watchman, who caught the man inside the building at one o'clock at night. He admitted breaking into the building, and after his own relatives had seen him in possession of, and using some of the stolen property, he boasted to me that I could do what I pleased, but it was impossible to convict him. I felt I would not be doing my duty as a citizen unless I prosecuted this man, which I did, at my risk and my own expense, with the result that when he was arraigned he put in a plea of not guilty, and was immediately turned out by the judge, and subsequently made me defendant in a suit for \$5,000 for having him arrested falsely, etc. Further comment is unnecessary.

The Sullivan law in New York has left the citizens prostrate and helpless, and since the anti-gun laws were enacted in Chicago the ratio of crime has crept steadily upward.

What protection are our farmers to have from the criminal element who run here and there in high speed autos, and are continually robbing the small town banks, taking the farmers' Liberty Bonds and other savings? There is an old saying "that nothing succeeds like success," and the criminals have, within the last few years, steadily been encouraged by the success of their activities.

I don't want to draw any parallels too severe, but it gives one food for thought to recall that in Russia the propaganda was as follows:

First, Prohibition; second, all sorts of Blue Laws, culminating in the disarming of the law abiding citizens; third, Bolshevism.

In this country we are continually ridiculing Europe and her mistakes, yet strange as it may seem, we seem never to learn anything from such mistakes, and success can not be described as never making a mistake, but in not continually making the same mistake; and here is where we Americans "fall down," to use a slang phrase, and "fall" hard.

It is plainly to be seen from the Government's attitude that they occupy the same position as the old negro preacher who exhorted his congregation as follows: "Now, brothers and sisters, I no's I's weak, hence, I always want you to do as I say and not as I do."

Our Government, from all accounts, appropriated more money for our Navy this year than any Nation in the world, and this, mind you, after our Navy came through the war unscathed, when our allies lost any number of fine boats. Too much armament ultimately brings any nation into trouble, and while we are talking disarmament, we are fast destroying the force of our arguments as soon as we make them to our allies abroad.

England during her period of greatness always regarded the man's home as his castle, and the farther she recedes from this position, just so far will she slip back in civilization and freedom of her citizens. The same thing holds equally well with the United States, except that in such matters, we are more radical, move faster, and from the drift of legislation throughout the country, it seems as if organized vandalism is at work

against society, the church, the home and the individual's personal liberty, and in place of our politicians taking a broad view of these matters, they are allowing radicals to hold office and be put in positions of trust where they never should have been elected, not to speak of being tolerated there after.

In place of the United States being one country, we seem to be spilt up in forty-eight different countries, each one with their governor, militia and top-heavy legislature, who are for ever and eternally grinding out legislation and laws without let or hindrance. Every state should send a certain number of representatives to Washington, and we should have one set of laws for the entire country to live under and work under. As the way we stand now, the various states, as well as the National Government, are passing laws by the thousands, and don't forget that every law, taxes or prohibits something. With this process carried on many years in the future, it does not take a great stretch of the imagination to see that the word "Verboten" will ultimately be an American word in place of a German one.

Our leaders should realize that the law-abiding citizen is the foundation upon which the Government stands, and he and his interests should be backed up at all times, because the safety of any country lies only along this course.

JESSE FRENCH, JR.

Jesse French & Sons Piano Co.

Newcastle, Indiana, June 14, 1921.

Markets Inexpensive Elevator for Small Buildings.

There is considerable demand for labor-saving elevators and dumbwaiters in stores and other buildings, particularly stores, warehouses, hospitals, garages, etc. Housewives find them very convenient for carrying material from the basement up to floor desired. Materials are very easily carried from one floor to another. This is important in the case of articles weighing considerable amounts.



Kimball Elevator for Small Buildings.

A new handy electric elevator for this work has been designed and is now being sold on the market. It is intended for work in smaller buildings such as those mentioned. It has a carrying capacity of 1,000 pounds, 50 foot per minute, to 2,000 pounds at 25 foot per minute. The platforms are wood, while the guide posts are made of heavy timbers bolted together and ready to be installed. The elevator is equipped with safety catches under the platform operated by a speed governor which will grip the guide posts and prevent the car from falling in case the cables

break. Builders will find installation very simple, as complete specifications are furnished and expert help is not needed.

These are manufactured by Kimball Bros. Company of Council Bluffs, Iowa, who manufacture all kinds of elevators, both hand and power.

Registration Is Obtained for a Number of Trade-Marks.

The majority of people have no time and no facilities for testing and analyzing the materials employed in making the commodities which they buy.

They are obliged, therefore, to depend upon the investigation of others or the good faith and responsibility of the makers of the goods.

Fortunately for the continuance of commerce, the general run of manufacturers find it to their interest to maintain established standards of quality and workmanship.

Competition is so great in many lines that whenever a well-known class of goods is allowed to deteriorate, competitors make inroads into the territory of the manufacturer who is so short-sighted as to lower quality.

Therefore, it is pretty generally conceded that a brand or trade-mark of established products helps fix values of quality and craftsmanship.

Hence, the four trade-marks shown in the accompanying illustration have been registered in the United States Patent Office under the numbers shown beneath each trade-mark in the illustration.

These trade-marks are symbols to represent quality and to enable the consumer recognize the particular articles by the aid of their corresponding trade-marks. The trade-marks reproduced in the accompanying illustration and the particular class of goods for which patent office registration has been granted are as follows:

141,285. Punching and shearing machinery for working metals, bar cutters, and universal punch, shear, and bar cutters. Buffalo Forge Company, Buffalo, New York. Filed September 15, 1919.

128,313. Files and rasps. Nicholson File Company, Providence, Rhode Island. Filed February 12, 1920.

124,382. Electric suction cleaners, electric sadirons, electric fans, electric heating apparatus and appliances, and electric cooking apparatus and appliances. Blue Bird Manufacturing Company, St. Louis, Missouri, assignor to Blue Bird Manufacturing Company, Dayton, Ohio, a Corporation of Delaware. Filed October 31, 1919.

140,684. Razor Stropps. Simmons Hardware Company, St. Louis, Missouri. Filed December 6, 1920.

ARMOR PLATE
141,285.

BEAVER



128,313.

Blue Bird
124,382.

**BARBERS PET
RAZOR STROPS**

140,684.

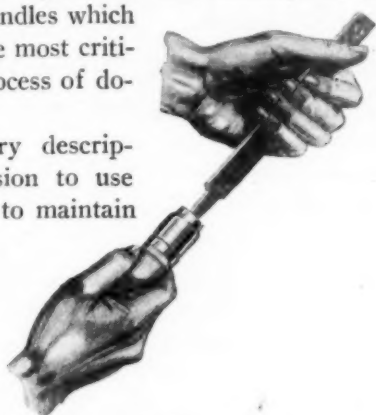
Makes File Handle That Has a Permanent Grip.

Vast quantities of sulphurous adjectives have been projected into the atmosphere of this country as the direct result of file handles which work loose just at the most critical moment in the process of doing a piece of work.

Craftsmen of every description who have occasion to use files will be enabled to maintain a more placid state of mind and a less explosive mode of speech by the aid of the new "Shur Grip" file handle which the Parker Supply Company, Incorporated, New York City, has placed on the market.

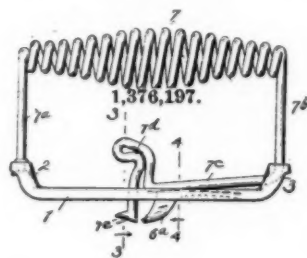
This new "Shur Grip" file handle screws right on to the tang of the file, cuts into the tang like a die and holds the file so tight and rigid, it is declared by the makers, that it can never come out unless unscrewed.

Enterprising hardware dealers can not afford to ignore this opportunity to increase the quality of their service to their customers. They are, therefore, advised to get in touch with their jobbers for a supply of this new "Shur Grip" file handle and, if they desire further details, to write to the Parker Supply Company, Incorporated, 780 East 135th Street, New York City.



Assigns United States Patent Rights for Sadiron Holder.

Under number 1,376,197, United States patent rights have been obtained by Samuel H. Gibson, Cleveland, Ohio, assignor to The Fanner Manufacturing Company, Cleveland, Ohio, a Corporation of Ohio, for a sadiron holder described as follows:



A sad iron holder comprising a base member, upright members mounted adjacent the ends of the base, a connecting handle member between the upright members, a latch having a knob and a foot, which are formed from a

continuous piece of resilient material, which material is an extension of one of the end upright members.

Says He Always Enjoys Reading Pages of AMERICAN ARTISAN.

TO AMERICAN ARTISAN AND HARDWARE RECORD:

I always enjoy reading every page of your journal. Each week is better than the week before.

—, Iowa, June 20, 1921. F. J. DRILLING.

Is Chartered to Make Hardware.

With a capital stock of \$50,000, the Chidsey Company, Bristol, Connecticut, has obtained a charter of incorporation to manufacture hardware. The incorporators are J. T. Chidsey, Epaphroditus Peck, and J. H. Chaplin.

Has Read AMERICAN ARTISAN for Over Thirty-Five Years.

TO AMERICAN ARTISAN AND HARDWARE RECORD:

Your journal is now and for over thirty-five years has been my best friend of all the other similar publications I have been reading.

A. G. MAAS.

—, Minnesota, June 20, 1921.

Trade Opportunities in Foreign Lands.

The Bureau of Foreign and Domestic Commerce through its Special Agents, Consular Officers and Commercial Attachés, is receiving information of opportunities to sell hardware and kindred lines in several foreign countries. Names and locations will be supplied on request to the Bureau in Washington or its District Offices. Such requests should be made on separate sheets for each opportunity, stating the number as given herewith:

35022.—A mercantile company in England desires to purchase or secure an agency for the sale of ice-cream freezers of the best quality. Quotations should be given f. o. b. New York. Payment to be made through bank. Reference.

35028.—A trading company in India desires to secure an agency for the sale of galvanized plain and corrugated iron sheets, tin plate, brass and copper sheets and rods, etc. References.

35029.—A mercantile company in England desires to secure an agency for the sale of oil stoves and heaters. Quotations should be given f. o. b. New York. Payment to be made through bank. Reference.

35046.—A commercial agent in Spain desires to secure the representation of firms for the sale of galvanized kitchenware, etc. References.

Coming Conventions.

Sheet Metal Contractors' Association of Ohio, Hotel Gibbons, Dayton, Ohio, July 19, 20, and 21, 1920. William J. Kaiser, Secretary, 123 East Chestnut Street, Columbus, Ohio.

Michigan Sheet Metal Contractors' Association Annual Outing, Grand Rapids, Michigan, July 29 and 30, 1921. Frank E. Ederle, Secretary, 1121 Franklin street, S. E., Grand Rapids, Michigan.

Kentucky Hardware and Implement Association, Jefferson County Armory, Louisville, Kentucky, January 24, 25, 26, and 27, 1922. J. M. Stone, Secretary-Treasurer, Sturgis, Kentucky.

Michigan Retail Hardware Association, Hotel Pantlind, Grand Rapids, Michigan, February 7, 8, 9, and 10, 1922. Arthur J. Scott, secretary, Marine City, Michigan.

Retail Hardware Doings.

Arizona.

North Brothers Company, 535 West Washington Street, Phoenix, have just installed a complete hardware store in connection with their big farm implement business.

Kansas.

The McCarthy Hardware Company has moved its shelf hardware stock to 507 Commercial Street at Emporia.

Iowa.

The McCord Hardware Company of Malvern, Iowa, suffered a \$10,000 loss by fire.

I. R. Thomas, Colfax, has sold his hardware and implement business to F. D. Stevenson of Ottawa, Kansas.

Minnesota.

J. L. Campbell of Red Wing has moved to Goodhue village where he is conducting the hardware store, which he recently purchased from J. A. Petersdorf.

E. W. Bartz, proprietor of the Glencoe Hardware store sold his place of business to R. S. Harris of Armstrong, Iowa.

Ohio.

The Weston Hardware Store, of Weston, has changed hands twice the last two months. A. J. Moores bought the stock from Pugh and Jones and in turn sold it to G. B. Slater of Maumee.

Advertising Help and Comment

Send Us Copies of Your Advertisements. Let Us Help You Get Bigger Results by Advice and Suggestions. The Service Is Free. Don't Hesitate to Take Advantage of It.

When the mercury in the thermometer is bubbling viciously past the 96 mark, you can see along any promenade street ladies wearing heavy summer furs.

The sight makes the perspiration come out on your forehead in beads as big as a marble.

and Son, reproduced herewith from the *Courier-Journal*, Louisville, Kentucky?

Although there is, at first blush, no apparent connection between gas ranges and furs, yet the psychology back of this advertisement is precisely the same as that which oper-

tisements of this character for the purpose of driving home the idea of "remarkable demand," Geher and Son would do well to give the prospective customers an idea of the selling price or, at least, some inkling of the reasonableness of the price of the range in relation to its quality and service.

* * *

The illustration of the combined hand cultivator and seeder which the Buchanan Hardware Company, Richfield Springs, New York, uses in its advertisement in the *Ostego Farmer*, Ostego, New York, is sufficiently clear to give a good idea of this useful gardening implement.

The type arrangement of the copy is excellent.

The assortment of helps for gardening is comprehensive enough to meet all average requirements.

As a business card and a directory of gardening tools the advertisement serves a good purpose.

The copy is weak, however, in

Remarkable Demand For Our Famous

Quick Meal Gas Range



Days and months come and go, sunshine, snow and rain alternate, whilst the demand for our "QUICK MEAL" goes on forever. Its fair name and good reputation will never pass into oblivion. Its sterling qualities will be remembered as long as woman in her household duties appreciates a gas range that does away with drudgery and makes cooking a pleasure. Year after year it is offered to the public with new and distinctive improvements, always up to date and universally acknowledged as the peerless leader of its class. Let us show you the 1921 style. It is equipped with the Lorain Regulator and it is a masterpiece of workmanship art.

GEHER & SON

215 W. Market St.
Near Second.

You wonder what the condition of the skin is beneath the heavy furs. You say to yourself that, no doubt, when they get home and take off the near-seal and other furry contraptions they have enough prickly heat on their skins to keep them scratching into the small hours of the morning.

But the fact remains that they wear the furs no matter how hot the day.

Analyze for yourself the motives which induce them to wear the furs.

You will find that they are actuated by the desire to be in style because some prominent society woman started wearing furs on hot days. Instances of fur wearing multiply in summer because one woman sees another woman wearing furs.

What has this to do with the "remarkable demand for Quick Meal gas ranges" mentioned with display type in the advertisement of Geher

and Son in the spread of the custom of wearing furs in summer time.

If Geher and Son succeed in convincing prospective customers that there is a "remarkable demand" for gas ranges and that people of discrimination are buying their Quick Meal gas range, they will have established a solid foundation on which to build effective publicity.

By constantly repeating the thought of "remarkable demand," they will get results along the lines of the same psychology which leads women to adopt certain styles.

The reason for the "remarkable demand" is set forth in the advertisement under consideration in this, that "the Quick Meal gas range does away with drudgery and makes cooking a pleasure."

The illustration, together with the statement that the range is equipped with the "Lorain Regulator," helps make the advertisement distinctive.

After publishing several adver-

Are You Ready for GARDENING?



We Have a Full Line of Helps

Garden Rakes	Hand Cultivators
Garden Hoes	Seeders and Cultivators
Turf Edgers	Dock Spades
Spading Forks	Weed Pullers
Shuffle Hoes	Garden Shears
	Wheelbarrows

At Your Service

Buchanan Hardware Company
RICHFIELD SPRINGS

this, that it does not contain any direct selling appeal.

Merely it lists a line of commodities and tells the people that the Buchanan Hardware Company carries them in stock.

But it gives no reasons why the people would find it to their advantage to come to the store and buy any of the articles mentioned in the advertisement.

Warm Air Heating and Ventilating

Better Installations. How to Sell More Warm Air Heaters. Reports of Progress in Warm Air Heater Research Work. Ventilating Factories, Garages, Theaters, and Houses.

SHEET METAL MEN URGE LAW TO LICENSE FURNACE INSTALLERS.

At the National Convention of Sheet Metal Contractors, held in Pittsburgh, June 14th to 17th, George Harms, of Meyer Furnace Company, Peoria, Illinois, made a very plain and concise statement covering the situation as to installation of warm-air furnaces.

Mr. Harms emphasized the fact that the great majority of manufacturers and installers are a unit in favoring some means by which the installation of such apparatus may be elevated to a proper standard of efficiency, and presented a set of rules covering the installation of both single and multiple pipe warm-air furnaces, which was adopted as read by unanimous vote of the Convention, with the understanding that the Warm Air Furnace Committee will from time to time make such changes and additions as it may be found will tend to improve installation work.

E. B. Langenberg, of Haynes-Langenberg Manufacturing Company, chairman of the Warm Air Furnace Committee, strongly urged that the Association accept the invitation of the National Warm Air Heating and Ventilating Committee to coöperate with the latter and other bodies for the purpose of working out a code covering installation of warm air furnaces, and at the conclusion of his report, a digest of which appears on pages 40 and 41 of our June 18th issue, offered the following resolutions, which were adopted unanimously, thus placing the National Association of Sheet Metal Contractors squarely on record in favor of legislation that will require the licensing after due examination of men engaging or engaged in the business of installing warm air furnaces:

BE IT RESOLVED—

That the National Association of Sheet Metal Contractors, not only affirms, but reaffirms its belief in the Warm Air Furnace, as the most economical and healthful method of heating houses, schools, churches and many other public buildings.

That this Association views with alarm and disapproval the tendency of some manufacturers to have their furnaces installed by men who have no knowledge of the principles of warm air heating and who seemingly have no desire to learn.

That furnaces installed by this class of dealers have in many cases brought warm air furnaces into disrepute, so much so that in some localities people building the better class of home will not even consider warm air heating and many architects actually advise their clients against its use.

BE IT FURTHER RESOLVED—

That this Association believes that furnace installation will never be elevated to its proper standard until some simple and reasonable law is enacted in each state, which law shall be so worded as to compel furnace installers to have at least a rudimentary knowledge of warm air heating and warm air furnaces, and also worded so as to compel owners so to construct their buildings that the furnace may be properly installed.

That this Association believes that the time for action along this line has long since arrived and that we call upon all furnace manufacturers to rally now to the support of those who are endeavoring to secure just and reasonable furnace legislation.

BE IT FURTHER RESOLVED—

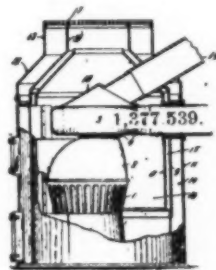
That this Association believes that the most important item in such legislation would be a clause compelling those who wish to engage in the business of installing warm air fur-

naces, to stand an examination before a competent board appointed by the State for that purpose and allowed to engage in such business only after demonstrating ability to install a furnace in accordance with the terms of said law, and this Association hereby voices its determination to work for the enactment and enforcement of this clause.

The home owner is entitled to this protection. As it is now, his comfort and his health are daily endangered and this Association believes that competent furnace dealers and home owners are both entitled to this protection against irresponsible and incompetent installers.

Pipeless Warm Air Furnace for Buildings Is Patented.

Justus J. Wollenhaupt, Cincinnati, Ohio, assignor to The Monitor Stove Company, Cincinnati, Ohio, a Corporation of Ohio, has procured United States patent rights under number 1,377,539, for a pipeless warm air furnace for buildings described in the following:

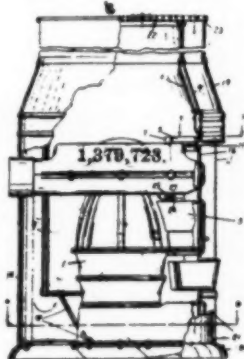


In a warm-air furnace, the combination of a heater having an annular radiator head, said radiator head provided with a vertical warm-air passage centrally therethrough, a plurality of casings surrounding said heater within one another and spaced from each other, providing an outer cold-air down-passage and

warm-air up-passage communicating with said outer passage at lower portion of the heater, a conical shell resting upon the top of said radiator head within the radiator diameter as a cover for said vertical air passage through the radiator and forming a warm-air dome over the heater within the inner upward warm-air passage, and a conductor pipe extending through said casings communicating with said dome for a direct heat distributing branch line leading from said heater.

Procures United States Patent Rights for a Furnace.

Under number 1,379,723, United States patent rights have been granted to Arthur E. Rudolphi, Dowagiac, Michigan, for a furnace described in the following:



The combination with a furnace body having projecting ashpit and combustion passage members, an inner casing frame comprising uprights and a top cross member mounted on said passage members, an inner casing having an opening at the front disposed with the side and top edges of the opening engaging said frame, a front plate mounted on said passage members and an outer casing member secured to said front plate.

plate mounted on said passage members and an outer casing member secured to said front plate.

Warm Air Heater Manufacturer Gives Fine Example of Cooperation with Dealers in Big Advertisement.

Uses Full Page in Daily Paper to Tell Public How to Take Care of Heating Plant and Publishes Name and Address of Local Dealers.

The time to mend a leaking roof is when the sun is shining. This is a thing which only the laziest man would deny. Constitutionally there are a few lazy

people in the world. The natural impulses of appetite and other bodily requirements keep the majority of us from growing indolent. Therefore, there is no gen-

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Sunday, May 23, 1931

THE MILWAUKEE JOURNAL

Sunday, May 23, 1931

-III-

Your Heating Plant and How to Care for It

Hints and Hunches on Keeping Your Furnace in the Right Condition for Efficient Service

Any of the heating contractors listed on this page will help you carry them out.

WINKIE'S HARDWARE

Sheet Metal and Furnace Work
He Installs 'Em Right.



697 Oakland Ave.—near Polson Place
Phone Lincoln 2128

JOHN HEINCK HARDWARE & FURNACES

OILS, PAINTS, GLASS, ETC.

All Kinds of Tin Work Done
737 MUSKEGO AVENUE
Phone Orchard 1388



EUGENE J. STACHOWIAK

Sheet Metal Works
Warm Air Furnace Heating
Ask Him for an Estimate.



771 LINCOLN AVENUE
Phone Orchard 934

FRED WITZEL

Hardware & Housefurnishings
Experience Insures Proper Installations.



1128 Burleigh—Corner 12th Street
Phone Lincoln 1384

THE AHRENS CO.

HENRY AHRENS, Prop.
General Sheet Metal & Furnace Works
Ask His Furnace Customers.



964 KINNICKINNIE AVE.
Phone Hanover 218

OTTO E. BUTENHOFF

Tin & Galvanized Iron Works



Furnaces and Boilers Cleaned and Repaired
3518 LISBON AVENUE
Phone Kildbourn 4179-J

ROBERT WIESEKE SHEET METAL WORKS

Repair Work Promptly Attended To



1512 FOREST HOME AVENUE
Phone Orchard 9488

A. E. WANDREY HEATING CONTRACTOR

Installations That Are Right



1261 24th STREET
Phone Kildbourn 646

MAX FISCHER

Cornice, Furnace and All Kinds of
Tin and Sheet Metal Work
Ask Him to "Show" You.



357 Western Avenue, North Milwaukee
Telephone North Milwaukee 1978

Strange as it may seem, your heating plant deteriorates more in summer, when it is not in use, than in winter, when you are using it, unless it is properly taken care of at the end of the heating season.

At the end of the season, after the fire has been allowed to go out, clean the heater and smokepipe and base of the chimney thoroughly, dump the fire out of the heater and remove the ashes. This will greatly lengthen the life of your heater. After cleaning, disconnecting the smokepipe from the chimney, or leaving it down, will retard the corrosion of the galvanized iron smoke pipe.

At the end of the heating season is also, by far, the best time to have your heater inspected and any damage repaired. Heating men are not so busy then and your order will have better attention and is apt to be done by more competent men as, during a slack time, only the best men are employed at any trade. The charges are also apt to be higher in fall when so many people are clamoring to have their work done.

The following suggestions, taken from a leaflet, "Money Saving Suggestions for Furnace Users," issued by R. J. Schwab & Sons Co., makers of Gilt Edge Furnaces, are well worth reading and then acting.

In early summer after you have let your fire go out for the season, clean your furnace thoroughly.

Clean the smokepipe thoroughly. Have any needed repairs made. Re-secure the joints.

Either store the smoke-pipe in a dry place or if the basement is dry, disconnect it at the chimney and at the furnace. If smoke pipe is left up after cleaning, build a light paper fire to help dry it out. Regardless of name or claim, there is no such thing as a self-cleaning furnace, no matter what kind of furnace you have, have it cleaned.

Root and moisture and air corrode your furnace if allowed to remain in it all summer.

Better men will do your work in dull seasons, because then only the best men keep their jobs.

The soot is easily removed in early summer.

The job will take longer and cost more when the soot is baked and corroded on to its surface.

Next Fall hundreds of people will be clamoring at the same time to have their work done. Result: Delay and inconvenience, if not suffering.

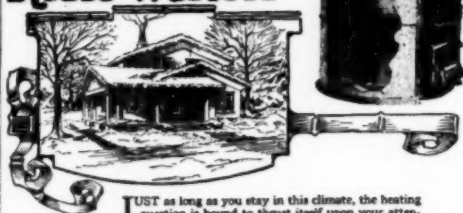
Greater demand in Fall means higher cost to you.

You have probably ordered your fuel supply, but that will be of no use to you unless your furnace is in condition. Use equal precautions there.

Order your heating man to clean and repair your furnace NOW.

The heating contractors whose cards appear on this page know how to put heating plants into prime condition, as well as how to install Gilt Edge Heating Systems, so that they will give you maximum heating efficiency.

Keeping Warm Next Winter



JUST as long as you stay in this climate, the heating question is bound to thrust itself upon your attention and demand the right answer. You don't want your family to exist in rooms whose low temperature invites constant colds and depleted vitality, nor do you want your coal bills to mount up to excessive figures. Why not insure comfort at low fuel cost by letting us install a

GILT EDGE

LIBERTY FURNACE

Gilt Edge Furnaces have been giving highly satisfactory service in thousands of homes for many years. They are designed in accordance with sound principles of correct heating engineering, built for long life, from first-class materials, and are easy on the coal pile.

Looking over what we have to offer in furnace service "take us" in a hurry in the patented, easy-to-shake, Anti-Climber Grate which makes accidental dumping of fire into ash pit impossible.

Made in Milwaukee by

R. J. SCHWAB & SONS CO.

283 CLINTON STREET PHONE HANOVER 2884

Installed by Experienced Heating Contractors



West Allis Furnace and Sheet Metal Works

Put Your Heating Problems Up to Us.



JOSEPH RETTELA, Prop.
588 64th Ave., Phone West Allis 320
West Allis, Wis.

KELM & BURBACH General Sheet Metal Works

Kelmeyer Correct Heating Systems

367 THIRD STREET
Phone Grand 938



O. W. KRINGEL Sheet Metal & Furnace Works

Our Work Is Our Best Advertisement.

2403 FOND DU LAC AVE.
Phone Kildbourn 1880



ART. R. PODOLSKIE

Sheet Metal Work, Slate Roofing and Furnace Work

Estimates Cheerfully Furnished

22 CENTER STREET
Phone Lincoln 1380 E



L. HELD SHEET METAL WORK

Let's Talk Heating Right Now.

2920 LISBON AVE
Phone Kildbourn 6111



HENRY J. BENNING

Furnace Installation

"There With the Service"

1005 BURNHAM STREET
Phone Orchard 1188



H. WINTER

The Hot Air Man

Furnace Repairing & Cleaning

Competent Advice on Heating.

582 AMERICAN AVENUE
Phone Orchard 2408



CHAS. MUELLER Tin and Furnace Work

Never Too Busy to Figure.

728 GERMANIA STREET
Phone Lincoln 1874



JNO. SCHOLTZ CO.

Sheet Metal and Furnace Works
Furnaces Set Up and Repaired

1823 VLIET STREET
Phone West 126



WHIPP & GOEBEL

Heating and Electric Contractors

Repair Work a Specialty

87 Vine Street, Phone Wauwatosa 884-J
WAUWATOSA, WIS.



eral inertia to overcome in getting action on the suggestion of having the furnace overhauled during the summer in preparation for winter's needs.

Some warm air furnace dealers and installers think of the summer time as the slack season of their business.

Of course, it is the slack season of their business if they think it is.

Remember Shakespeare's famous dictum, "there is nothing good or bad but thinking makes it so."

By thinking in the opposite direction and following up the thinking with doing, there need never be any slack season in the business of the warm air heater dealer and installer.

Here is a proof: On the preceding page is shown a reproduction of a full page advertisement in the *Milwaukee Journal*, Milwaukee, Wisconsin.

It features the Gilt Edge furnaces.

It is an example worthy of emulation in respect to its effective cooperation between manufacturer and dealers.

Quite appropriate for the season of the year when it was published, namely, in the last days of May, the advertisement supplies suggestions and motives for keeping up one or more phases of the warm air heater business.

In the "Hints and Hunches on Keeping Your Furnace in the Right Condition for Efficient Service," are enough arguments and directions to supply any enterprising dealer or installer with all the material which he needs for an energetic and successful campaign for new business.

The remarkable thing about this advertisement is the impression which it creates of unity between manufacturer and dealer.

Immediately below the second line at the head of the advertisement are the words: "Any of the Heating Contractors Listed on This Page Will Help You Carry Them Out."

The effectiveness of the advertisement lies in the clear and persuasive manner in which the text embodying the "Hints and Hunches" is set forth.

It is not merely a collection of names and addresses of dealers grouped around the name and address of the manufacturer.

On the contrary, it is a closely woven, intimately connected fabric of selling appeal.

Its benefits accrue to every heating contractor mentioned in the advertisement.

The people who read the central text of this copy find it free from any sort of special pleading. It states simple facts with which they are already acquainted. It tells them what must be done to cut down expenses and prolong the usefulness of the house-heating furnace. The facts and the deductions therefrom are tightly clinched by the reasonable advice, "Order Your Heating Man to Clean and Repair Your Furnace Now."

The average householder recognizes that it is to the interest of the manufacturer to recommend only reliable and experienced heating contractors.

The cooperative influence and value of the advertisement under discussion is, therefore, heightened by the straightforward statement that "The heating contrac-

tors whose cards appear on this page know how to put heating plants into fine condition, as well as to install Gilt Edge Heating Systems so that they will give you maximum heating efficiency."

There is no necessity to seek for lofty ideals as the motive of this kind of cooperation between manufacturer and dealer.

Of course, the higher the ideal the better it is for the trade in general.

But for a great many hard headed business men who affect scorn of all motives other than those of profit there is still an inescapable logic in this kind of publicity.

It is the logic of community of interests.

Whether you believe in the higher ethics or not, whether you believe in universal brotherhood or not, whether you believe in craft fellowship or not, whether you believe in the essential soundness and trustworthiness of human nature or not, the fact remains that your interest as a heating contractor or as a dealer in warm air furnaces are essentially interlocked with those of the manufacturer from whom you buy your supplies.

When the manufacturer keeps his product up-to-date and endeavors to market it to responsible dealers in such a fashion as to satisfy the ultimate consumer, you as a contractor or dealer and every other one connected with the transaction from the making to the installing of the furnace are bound to benefit by the maintenance of quality and service.

When the householder gets the right kind of a warm air furnace and when he is instructed in its care and the prolongation of its usefulness through such a medium of education as the advertisement under discussion, he is certain to be kindly disposed toward you as the heating contractor, and toward the manufacturer as the maker of the furnace.

Of course, you can not go straight to your bank and say to the banker: "Here is the condition of affairs in my business. We have a lot of satisfied customers, our manufacturers help us in every way to get more business and to get service to our patrons. Won't you let me have twenty-five thousand dollars on the strength of this general attitude of the trade in my neighborhood?"

But you can go to the same banker after you have put into effect through your own efforts the advantages of this form of cooperation between dealer and manufacturer and borrow all the money you need on the strength of actual growth of your business.

From any angle of consideration, therefore, the good which flows from the working together of manufacturer and dealer is undeniable.

It makes no difference what motives are accepted as the reasons for this working together.

The basic value is clear, definite, and always measurable in terms of tangible profit.

Many things difficult to design prove easy to performance.—Johnson.

You can't expect to win a large success in business unless you invite success through advertising.—Printers' Ink.

Practical Helps for Tinsmiths

No Two Jobs Are Exactly Alike. Therefore, the Sheet Metal Worker Has to Meet Each Difficulty as It Comes. Send Your Problems to Us. Let Our Experts Help You.

PATTERN FOR HIP ORNAMENTS OF RANGE HOOD.

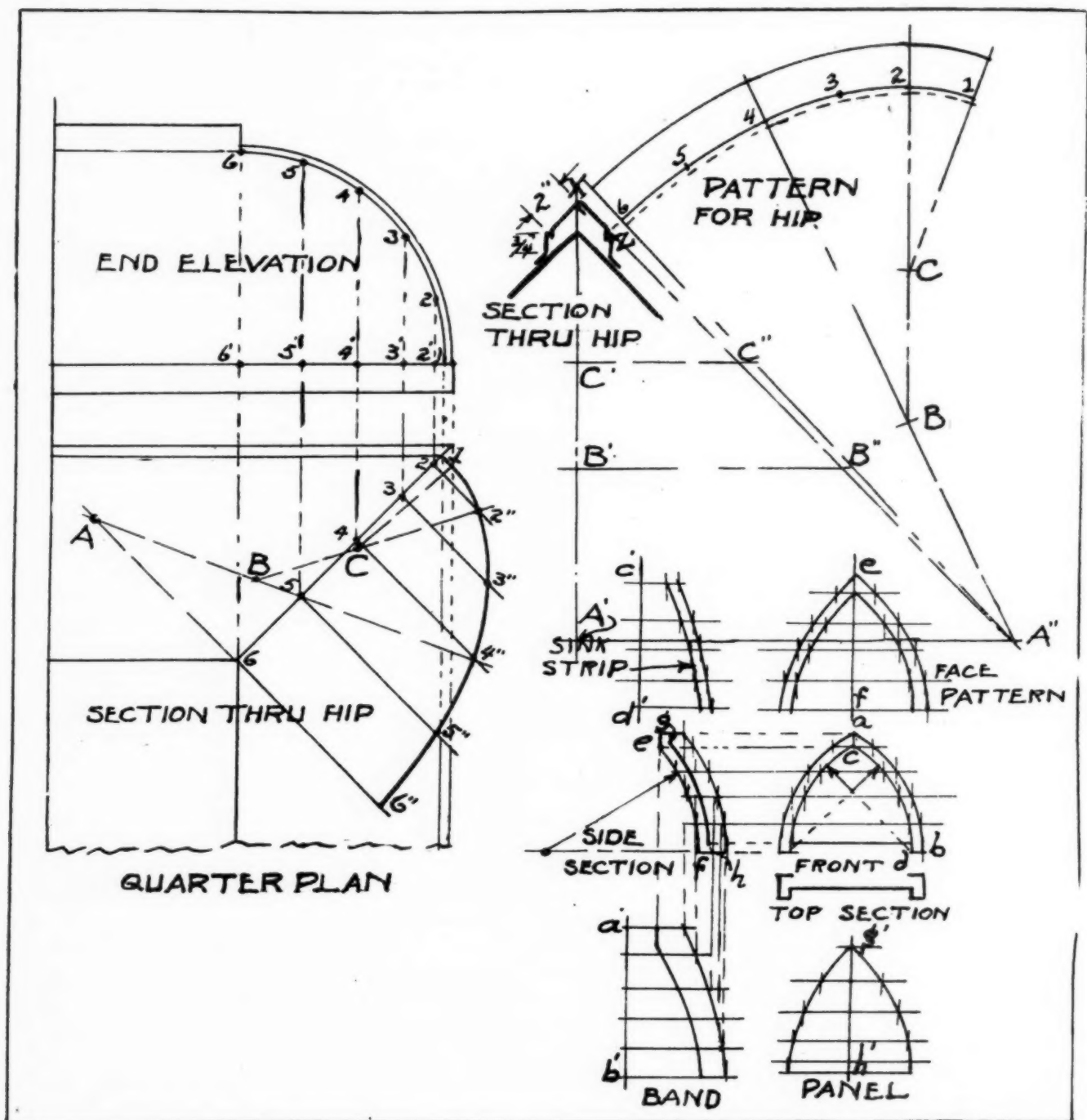
By O. W. Kothe, Principal St. Louis Technical Institute and Instructor in the David Rankin, Jr., School of Mechanical Trades, St. Louis, Missouri. Written especially for American Artisan and Hardware Record.

Range hoods are ornamental in various ways. In this case we have a chamfered rib fitted over the corner.

In this lengthening process altitudes between points are maintained. So draw the hip line 1-6, etc., of elevation drop lines into hip of plan.

Then square out lines at right angles from these points.

With dividers pick the elevation heights as 2'-2; 3'-3; 4'-4, etc., and set in plan as 2-2"; 3-3"; 4-4", etc. Trace a uniform curve through these lines and you have the true section through hip.



Pattern for Hip Ornaments of Range Hood.

Observe that our end elevation gives the end curve, but this curve lengthens out on a hip.

Now our detail through hip sets over the corner of hip. At the lower corner 1 it is as in section, but as

it raises its bevel changes to a flatten position.

This difference is largely governed by the workman in twisting the metal with his fingers while tacking with solder before riveting.

Our next step is to find as much of the section through hip as can be described with dividers.

Set dividers to any radius and point 6" as a starter, by trials seek to sweep as much as possible.

We find the first radius hinges in point A, and from it we can describe arc 6"-5"-4".

So, beyond 4" we must find another center, and by trial we establish B which enables us to strike 4"-3"-3". This makes it necessary to use another center for curve 2"-1, and we find it to be C.

Pick these radii as 6"-A; 4"-B; 2"-C and set as X-A'; X-B'; X-C.

From these points square out horizontal lines, and extend the chamfer line X-Z as X-A". This establishes the radii for describing the pattern.

The girth 6-5-4-3-2-1 in pattern is picked from true section through hip. A little extra stock is allowed to permit adjusting.

To lay out the patterns for ornaments on hood, draw the side and front view. These curves are described from the centers as shown.

The patterns e-f and g-h have a girth of e-f and g-h of side section.

Then this girth is developed from the lines of front elevation. The patterns c'-d' and a'-b' are picked from c-d and a-b of front elevation.

In this way girths picked from the side section are developed from the front elevation, and the girths picked from the front elevation is developed from the side section.

Edges must be allowed extra for soldering.

The Making of Pure Iron in an Open Hearth Furnace.

At a recent meeting of the American Iron and Steel Institute, New York City, Mr. W. J. Beck, director of Research at the American Rolling Mill Company's plant, Middletown, Ohio, explained the technical difference between modern iron making and steel making and told of the development of commercially pure iron by the open hearth furnace process.

"It can not be questioned," said Mr. Beck, "That there has always existed a demand for the purest obtainable irons. This demand has held steadfastly in the face of rapidly developing steel producing processes. The steady importation of Norway and Swedish irons throughout our entire metallurgical history up to the outbreak of the war in 1914 is sufficiently indicative of this fact. These foreign irons, however, that had to be laboriously worked down by a charcoal or puddling process, were not suited to the large-scale tonnage operations which are made imperative by American conditions of labor and industry. It is natural, therefore, that our metallurgists should have been led to the consideration of adapting the open-hearth steel furnace to the manufacture of iron of at least an equal degree of purity as those types which were imported from overseas."

"The first experimental heats were made by the American Rolling Mill Company at Middletown, Ohio,

in a 35 ton furnace, and they were nursed and watched with the most anxious care day and night. Continuous progress in the art was made until finally it was proved possible to reduce the five ordinary impurities of iron (carbon, manganese, sulphur, phosphorus and silicon) to the point at which in the aggregate they did not exceed fourteen-hundredths of one per cent. At the same time special methods had to be studied to attain the maximum degree of degasification and the proper de-oxidation."

"As the experimental work progressed it was found that there were considerable differences in the practice of producing commercially pure iron as compared to steel practice, which materially added to the cost. In the first place, it required several hours longer to make an iron heat than a steel heat, and the final temperature of the metal was 200 degrees Fahrenheit higher than a heat of steel. Another marked difference was also found between the percentage yield of metal as compared with the percentage yield when the steel was made."

"Several years were required to develop this pure iron and for this reason the final and successful result was the occasion for much congratulation among the workers. A new metal with many unusual properties had been given to the world."

This "ARMCO" Ingot Iron has been manufactured in large tonnages since 1907 and is put to many uses where resistance to corrosion is desired. Because of its purity it is also largely used in the welding and enameling business.

Illinois Salesmen's Auxiliary Plans Aggressive Campaign.

During the National Convention of the Sheet Metal Contractors which was held a few days ago at Pittsburgh, there was an informal gathering of the members of the Salesmen's and Jobbers' Auxiliary to the Illinois Sheet Metal Contractors' Association.

Plans were discussed for increasing the membership of the Auxiliary as well as for bringing more sheet metal contractors into the State Association.

Among those who spoke were L. A. Denoyer, Manager of the Chicago office of the Canton Art Metal Company, Canton, Ohio; George Harms, of the Meyer Furnace Company, Peoria; E. W. Norman, of Merchant & Evans Company, Indianapolis, Indiana; E. B. Langenberg, of Haynes-Langenberg Manufacturing Company, St. Louis, Missouri.

Wants Full Size Boat Pattern.

TO AMERICAN ARTISAN AND HARDWARE RECORD:

I would like to know where I can secure pattern for a fifteen foot flat bottom fish boat, two seats, 36 inch bottom 42 inch top and 15 feet long 26 inches at bottom (top proper flare) at big end so I can fasten Evenrude boat motor in case I want to use one.

Yours truly,

GEORGE GEUSS.

—, Missouri, June 18, 1921.

Men, like bullets, go farthest when they are smoothest.—Richter.

Little Ruth Gave Greenberg Something to Write About When She Recited the Nursery Rhymes of Jack Horner.

*If You Transact Business Properly by Knowing Your Business,
You Will Be Able to Eat Your Christmas Pie Every Day.*

Written Especially for AMERICAN ARTISAN AND HARDWARE RECORD by J. C. Greenberg,
Peoria, Illinois.

(Copyright, 1921, by J. C. Greenberg.)

I was in a shop last week, but the boss was out on a job. His wife and little Ruth was in, and we got to talking about nothing in particular.

Little Ruth, about five years of age, brought me her birthday book, and began to recite the little nursery rhymes which the book contained.

Among the pieces that Ruth recited was this one:

Little Jack Horner
Sat in the corner
Eating his Christmas Pie.
He stuck in his thumb
And pulled out a plum and said
What a good Boy am I.

Little Ruth gave me an inspiration which will last me all of my life. I must tell it to you, and if it will

do any good, I shall be glad.

The man who wrote this piece was a prophet and a sage and a philosopher all in one. He wrote a bookful in this one little Jack Horner jingle. Listen, kind friend.

Jack Horner, as the story tells us, was little. He did not have any ideas that he was big and mighty. He was in his sphere attending to his business as a good little boy should.

We, the big Jack Horners of business, are not as smart as lit-

tle Jack. We are inclined to meddle a little and attend to somebody else's business instead.

If we attend to our business and do it as diligently as Little Jack was eating his Christmas pie, we would have lots of time to earn real money by learning that profit is what we have at the end of the year exclusive of debt. The end of the year is about Christmas Pie time.

He Sat in the Corner.

Little Jack Horner sat in the corner, so the story goes. This means that he was at home attending to his business diligently. He was at home enjoying being busy with his Christmas Pie. Our places of business are the home of Big Jack Horner.

Are we at our business home being busy with our affairs, or are we locked up in some cellar earning tinners' wages? Are we building a Christmas pie with the plum in it? Just think it over and see for yourself.

What can we do to learn where the real plums are? What can we do to learn enough facts about our business so we can last twice as long with our competitor? Believe me, attending to business is constructive, and selling your time to yourself is destructive. Little Jack Horner was a wise little kid because he sat in the corner and was busy attending to business.

Little Jack Horner
Sat in the corner
Eating his Christmas Pie—

Yes, friend, little Jack was eating his Christmas Pie. In the world about little Jack it was always Christmas, and he always was busy eating his Pie. How many of us business men have more than one Christmas in a year? How many Christmas Pies can you eat in a business way, and how many Christmas days can you have?

Let me whisper to you my little secret. Every time you bid right on a job and get it, the profit is a Christmas Pie and that day is Christmas Day. If you will learn how to transact business properly by knowing all about your business you will be able to eat your Christmas Pie every day if you like.

Getting business is a science, and the scientific man is the successful one. The road to Christmas pies lies in all trade magazines. It lies in all advertising matter it lies in all sales letters and catalogs.

Are you reading them? Are you putting in your order for a Christmas Pie now?

There you go! Forget that old foggy alibi about not having time.

You have got time that's all there is about it. Read and learn. Your knowledge is the price of your Christmas Pie. Wasn't Little Jack Horner a smart little kid? I'll say he was.

He stuck in his thumb
and pulled out a plum.

Little Jack just stuck to his job and was rewarded by finding a plum. How many plums did we find in our business this year so far? Please get that good—Little Jack found a plum. Every business, like every Christmas Pie has a plum somewhere. The real trick is to find it. We use our thumbs too often in poorly made Christmas pies. We make the pies as good as the price we put on it. If we get enough profit to have a plum in our pie, we are good business men. If our Pie is all dough, it is our own fault.



J. C. Greenberg.

We will never have plums unless we are smart enough to earn the money with which to buy plums. Knowledge is power. Power is needed in the sheet metal business.

Do you know exactly what your next job will be? If so, do you know the problems connected with it? How many of us sheet metal men are taking a side course in sheet metal work so we will know more about our business?

Too many of us stick our thumb in our business and find that there are no plums. We are disappointed and disheartened. This is true because very few of us are rich.

If there are any rich tinnerns, they must have made their riches at something on the side. Get on the job, and see to it that when you stick in your thumb, you will find a plum.

And said, what a good
Boy am I.

You see, Little Jack admired himself. He admitted that he was a good little boy. He had pride and ambition to admit it to himself, didn't he?

How many of us sheet metal men can truly say that we are good boys as far as results go? How many of us have that nice clean shop, that nice show window, that nice show room, that nice bookkeeping system which will make us proud of ourselves?

How many who are now in the business will be able to save enough plums to have a Christmas pie when we are sixty years of age? How many of us carry enough life insurance so that when we get bumped off our little wifey and kiddies will have a Christmas pie with a plum in it?

Think this over, and ask yourself if you can truly say, "What a Good Boy Am I."

Yep. Little Jack Horner was a wise little kid all right, all right.

Auxiliary Members Will Have Annual Dinner at National Convention.

At a meeting attended by members of the various Auxiliaries of State Sheet Metal Contractors' Association, presided over by George Harms, of the Meyer Furnace Company, Peoria, Illinois, with E. W. Norman as Secretary, it was decided that an informal dinner will be given each year during the National Convention of Sheet Metal Contractors for Auxiliary members in attendance at the convention, the first to be held at Indianapolis, Indiana, in 1922.

At the present time, it was not deemed advisable to form a national body of Auxiliaries, the prevailing opinion being that the work could best be carried on in each individual state.

Organizes Sheet Metal Works.

The S. & O. Sheet Metal Works, Detroit, Michigan, has been organized by Frank C. Fullerton and Otto Schwartz, 2549 La Salle Gardens, Detroit.

Starts a Tin Shop.

Roy Johnson and Lawrence Schumacher have recently opened a tin shop and garage at Peebles Corners, Wisconsin. The shop is located next to the Casper Welington place and is modern in every way.

Describes the Benefits of Science in the Workshop.

Industry in these days no longer scorns the universities. Research bureaus are being established and developed for the purpose of bringing science to bear upon the problems of production in shop and factory.

It is becoming generally recognized that science is of immense benefit to manufactures.

The question naturally suggests itself: "What is the good of carrying out some important research in the laboratory, if the men in the workshop who are to apply it are not trained to do so correctly?"

From this angle of the subject, there is much timeliness and instruction in the following extract from a paper on "Science in the Workshop," by W. H. Cathcart, read before the Institute of British Foundrymen's Annual Conference in Glasgow, Scotland:

"During the last few years this most important subject has been very considerably written about and discussed. With most of the opinions expressed in connection with several recent papers, I am in complete agreement, but to others I am in decided opposition.

"For example, while I fully appreciate the fact that much is being done to bring more scientific knowledge into the workshop, yet I feel quite sure that until it be fully realized that the craftsman is a factor of greater importance than some people appear to think him, industry can not possibly secure the full advantages that may be had from the valuable research which is being continually carried on by our distinguished scientists.

"That this fact has not been recognized by certain individuals is to me all the more inconceivable since these same individuals have stated that the practical man has not only hampered but has also thwarted them in their efforts to introduce scientific methods into the workshop.

"It ought to be quite obvious that the right thing to do is to make every effort to eliminate the prejudice and ignorance which are the real cause of the trouble, but, instead of doing so, it has actually been suggested that the practical man be exterminated. Drastic treatment, forsooth, and methinks not quite in keeping with the usual practice of the British medical profession in dealing with any poor patient, however bad he may be. No, there is to be no extermination of the practical man.

"If it be true that his influence is of sufficient importance to retard progress in the workshop, it is equally true that the same all-powerful influence may, by proper enlightenment and tactful guidance, become one of the chief factors in attaining the end that we all so much desire and endeavor to bring about.

"During the years which have elapsed since first I discovered the value of science applied to my own practical work, I have taken advantage of every opportunity of urging my own fellow craftsmen and others to engage in the study of the scientific principles which govern their work, and also of emphasizing the importance of establishing a closer relationship between scientists and practical men.

"In attempting to introduce science into the workshop, I fully appreciate the difficulty experienced by anyone who has not been brought up amongst workmen.

"It is not altogether his fault that, for many reasons, he is considerably handicapped; but, in many cases, his want of success is due to the fact that the workman is approached in such a manner as to give the impression that he is ever so much inferior. Naturally, just as is to be expected, whatever may have been the extent of the prevailing prejudice, it is increased thereby a thousand-fold.

"Having been trained in the workshop, and being in common with my fellow craftsmen, possessed of all the inner knowledge, knowledge not known and consequently not appreciated by an outsider, I have in my own efforts met with a large measure of success.

"I am satisfied, therefore, that if the problem be dealt with in the right spirit, much good may be accomplished. By coming more in contact with each other, and by exercising a spirit of mutual respect, much might be done towards breaking down, on the part of the practical man, the prejudice which exists against anything of a scientific nature, and, on the other hand, the scientist might well discover that, while the craftsman makes daily use of a great deal which is not systematised knowledge, he nevertheless continuously carries out a large proportion of his work in strict conformity with scientific principles which govern it.

"In order to overcome the prevailing prejudice of practical men against science, it is necessary to get them to realise the fact that science and practice are not opposed to each other. Indeed, they are inseparable. Separation is just as inconceivable as in the case of the mind and the body of the human being.

"In either case, if separation does take place, the consequences are equally disastrous. Furthermore, I maintain that the performance of any operation pertaining to any art or craft can not possibly be truly practical without science.

"Science consists in systematic observation of facts and intelligent deduction therefrom, while art is the application of these facts. These facts are certain fixed laws or principles which govern every practical operation.

"Consequently, art in the true sense—except it be due to mere coincidence—can not come into being without some knowledge of these laws. In my opinion, therefore, science may be quite justifiably regarded simply as knowledge.

"I assert, therefore, that every practical man who knows what he is doing is truly a scientist. When he does not know what he is doing, he ceases even to be a practical man, and I contend that, while he persists in carrying out his work in accordance with haphazard rule-of-thumb methods, he is not a craftsman in the grandest sense.

"In attempting to induce craftsmen to abandon all these indefinite methods it is exceedingly difficult to get them to realise that the so-called scientific method is no new institution. Every successful practical operation is performed scientifically, even although the craftsman may be ignorant of the fact.

"Moreover, every unsuccessful operation is governed by scientific laws. If a workman, for example, burns a piece of steel in the forge furnace, or overheats his metal in the melting pot, it is bad practice, but it is in accordance with a scientific law with which the

workman ought to be conversant in order that he may be better able to guard against the recurrence of the evil.

"From certain opinions expressed recently, it would appear that the chief concern of many scientists is the better training of the laboratory staff. With this I am in whole-hearted agreement, but how can we expect to get the very best possible results if we do not take the same steps to train the practical man?

"What is the good of carrying out some important research in the laboratory if the men in the workshop who are to apply it are not trained to do so correctly?

"Of course, it has been suggested that this is one of the very good reasons for training the laboratory staff, so that they may be fitted to go out into the workshop to control the practical operations. Evidently there is on the part of the practical man not only a lack of knowledge, but also a lack of the necessary intelligence to permit of his being trained.

"It would appear as if there were an impression abroad amongst some people, that a craftsman is only a manual worker, a kind of superior laborer whose chief qualification need only be that of doing just that which he is told without any initiative on his part.

"I wonder just why he stopped at the poor despised old grandfather. Why not have gone right back to Aaron when he cast the golden calf, or to Tubal-Cain when he forged the first plough-share?

"It may be somewhat superfluous on my part to emphasize the fact that the pioneers of industry, the practical craftsman of the past, with all their lack of the scientific knowledge which is available today, have left on record for all time many evidences of the fact that they were possessed of intelligence and genius of the very highest order.

"I maintain that the potentiality of the craftsman of the present day is greater than that of his forefather, because of the definite and more reliable knowledge which has been secured through the brilliant research of our distinguished scientists.

"Not as a matter of opinion, but as a matter of actual knowledge I assert that, in the course of pure scientific research, scientists have accumulated a vast amount of valuable knowledge which is not taken full advantage of.

"One reason for this is the inexperience of the scientist concerning workshop practice. Another reason is that practical men are unaware that such knowledge exists. The obvious solution is that each should realise he is the complement of the other, that each is of equal importance, and that by working in cooperation and harmony greater benefits to industry and mankind may be reaped from the labors of all.

"There has been a great deal of talk about scientific control in the workshop. With this I most heartily agree, but with some of the suggestions regarding the manner of control I do not agree. It has been suggested that members of the laboratory staff should be trained to become the future captains of industry.

"If they receive an adequate training in the particular craft, and have the other necessary qualifications, I have no objections whatever to their entering the field, but why train them to enter a province which legitimately belongs to someone else, especially when there is so much scope for their particular training and

abilities in a direction which I am sure would be far more beneficial to science and industry?

"I maintain that, by adopting some system for the scientific training of young craftsmen, it would be possible to secure workmen, foremen and managers that could not be equalled. I contend that the works manager should not only be strongly in sympathy with scientific methods, but that he should be in possession of a considerable amount of scientific attainments.

"It is true, of course, that we can not obtain these ideal conditions all in a moment, but I suggest that in the future as much care be exercised in selecting lads for any craft as for the laboratory.

"While they are being taught how to manipulate their tools in the most expert manner, they should at one and the same time be taught the scientific laws which govern everything they do. These lads should be examined periodically in knowledge and ability, and be graded accordingly.

"As the result of these examinations, the bulk of them would remain in the workshop as craftsmen, those of the lower grade doing the less important work, and those of the higher grade carrying out the work requiring greater knowledge and skill. Certain lads who gave evidence of exceptional aptitude and ability might well be transferred to the laboratory to undergo special training in keeping with workshop practice.

"As the time went on it might be found desirable to retain the services of some of them in the works laboratory, while the others would return to the workshops for the purpose of controlling the work, and also providing an excellent field from which to select the managers and foremen of the future.

"I have endeavored to show, and I have done so without fear of contradiction from either scientist or craftsman, that science is essentially a fundamental part of practice. That being so, why not teach the craftsman the whole of his business?

"The right way to bring about the scientific control of the workshop is to secure, first of all, the kind of managers, foremen and workmen whom I have indicated. We already have the right kind of research workers and others in our colleges, schools, works laboratories, and elsewhere.

"By instituting a system of cooperation between the laboratory staff and the managerial staff, each exercising a feeling of mutual respect, realising that each is of equal importance and is truly the complement of the other, we may hope to be making progress towards the true collaboration of science and industry.

"That there is a great and pressing need for the sincere cooperation of scientists and practical men need hardly be emphasized if we are to retain the foremost position as an industrial nation.

"Other nations are doing more than we are in this direction. Not that our scientists are behind in any respect, but that our practical men do not fully realise that we have scientists who are second to none, that they can render most valuable assistance, and that it is imperative that full advantage be taken of it.

"In conclusion, let me say that, since engaging in the study of science applied to practice, it has proved not only most beneficial, but has added very considerably to the interest and pleasure not otherwise to be had in practical work."

Notes and Queries.

Harvester Oil Cans.

From Werner's Metal Shop, 224 Third Street, Tracy, Minnesota.

Kindly give me the address of a manufacturer that makes harvester oil cans with straight and bent spout with stamped lettering.

Ans.—Gem Manufacturing Company, 104 South Michigan Avenue, Chicago, Illinois; National Enameling and Stamping Company, 346 West Kinzie Street, Chicago, Illinois.

Monarch Oil Cook Stove.

From Trilling Hardware Company, Menasha, Wisconsin.

Please inform us who makes the Monarch Oil wood stove.

Ans.—Excelsior Stove and Manufacturing Company, Quincy, Illinois.

Equipment for Laundries.

From W. H. Lewis, Matthews, Indiana.

Will you please furnish me with the name of a manufacturer of equipment for laundries.

Ans.—Troy Laundry Machinery Company, Ltd., LaSalle and 23rd Street, Chicago, Illinois; American Laundry Machinery Company, 208 West Monroe Street, Chicago, Illinois.

"Cadet" Lawn Mower.

From R. B. Fitzgerald, Madison, South Dakota.

Kindly advise who makes the Cadet lawn mower.

Ans.—Coldwell Lawn Mower Company, 62 East Lake Street, Chicago, Illinois.

Copper or Brass Tank Screws.

From Lincoln Radiator Repair Shop, 211 South Kickapoo Street, Lincoln, Illinois.

Where can we secure four inch and five inch copper or brass tank screws or caps spun from sheet metal?

Ans.—Machinists Supply Company, 19 North Jefferson Street, Chicago, Illinois, will make these for you.

Fire Brick.

From John N. Schilling, 479 North Twentieth Street, Columbus, Ohio.

Please inform me who manufactures fire brick in any model.

Claycroft Brick Company, Columbus, Ohio; Chicago Fire Brick Company, 133 West Washington Street, Chicago, Illinois; Dover Fire Brick Company, Cuyahoga Building, Cleveland, Ohio.

Wash Boiler Handles.

From Frank Seeger, Globe Sheet Metal and Furnace Works, 529 Third Street, Milwaukee, Wisconsin.

We would like to know where we can buy wash boiler side handles.

Ans.—Berger Brothers Company, 229 Arch Street, Philadelphia, Pennsylvania.

Copper Sheets.

From Frank Seeger, Globe Sheet Metal and Furnace Works, 529 Third Street, Milwaukee, Wisconsin.

Can you inform us where we can secure copper sheets tinned and polished on one side.

Ans.—C. G. Hussey and Company, 2850 Second Street, Pittsburgh, Pennsylvania; Merchant and Evans Company, 347 North Sheldon Street, Chicago, Illinois; Trumbour-Whitehead Brass and Copper Company, 43 North Seventh Street, Philadelphia, Pennsylvania.

Wash Boiler Bottoms.

From Frank Seeger, Globe Sheet Metal and Furnace Works, 529 Third Street, Milwaukee, Wisconsin.

Where can we purchase copper wash boiler bottoms cut to size?

Ans.—Republic Metalware Company, 1532 Wabash Avenue, Chicago, Illinois; Atlantic Stamping Company, 156 Ames Street, Rochester, New York.

Weekly Report of the Markets

General Conditions in the Steel Industry. Review of Prices and Tendencies in Sheet Metals, Pig Iron, etc.

LOWERING OF STEEL PRICES IS IN PROSPECT.

The belief is growing in some quarters, that a further reduction of steel prices is indispensable to the stimulation of buying. The percentage of operation is declining because there are not sufficient orders to keep things going in the industry; and the scarcity of orders is attributed to unsatisfactory prices.

In face of present conditions some of the independent steel companies are seriously considering closing down their plants entirely for an indefinite period.

Most of them are operating at a loss and would save money by shutting down, the consideration of their customers and the breaking up of their personnel being the only reasons for keeping their plants under power today.

The mills of the leading interest are still maintaining an operating rate of 10 per cent more than that current at the works of the independents and there are indications that the leading interest may be in a position to increase this slightly for a time in the near future.

In some quarters, however, an operating rate for the industry of as low as 20 and 15 per cent of normal before the end of the summer is freely predicted.

The one bright spot today is the tendency on the part of the railroads to let out contracts for repair work on equipment and to increase operations at their own repair shops.

It is reported that the carriers are planning much activity along this line commencing July 1 or the time set for the railroad employees' wage reduction.

Inquiries already in the market are one for the repair of 2,500 cars by the Chesapeake & Ohio, another from the Illinois Central on the repair of 2,000 cars and the Missouri Pacific on the repair of 2,000 cars.

Among current orders placed during the week by the railroads are one for 1,000 box cars booked by the Standard Steel Car Company from the Erie, another for 40 air dump cars booked by the Kilbourne & Jacob Manufacturing Company from Mitsui & Company for the South Manchurian Railway and one for 550 tons of 60 pounds steel rails which was taken by the United States Steel Products Company for the Hanship Electric Railway, Japan.

The Government of Brazil is to spend more than \$21,000,000 on the construction of new lines and the improvement of those already in operation.

The Algoma Steel Corporation has booked orders for 24,000 tons of standard steel rails from the Canadian Pacific, 15,000 tons from the Grand Trunk and 3,000 tons from the Delaware & Hudson.

Steel.

Lower prices and wages throughout the industry are generally anticipated following the reduction in the

railroad labor wage with the anticipated accompanying freight cut.

Although some of the independents continue to shade the level of prices established in April there have been no reports to the effect that the leading interests has cut prices on any products other than wire and nails, which reduction was reported the past week.

At that time it was the generally accepted theory that the corporation had adopted a policy of meeting any and all competition as soon as and when instigated.

Since then there has been nothing whatever to substantiate this theory although it is quite possible that such a policy could be in force tentatively and not actively inasmuch as some of the independents still adhere to the established schedule.

Some of the previously announced wage reductions at the plants of independents in the Youngstown district went into effect during the week and most of the independents are now paying less than the leading interest, besides having abolished the payment of all overtime.

The common labor scale of the corporation is still 37 cents an hour.

Prices are dragging on bottom and producers are showing less and less eagerness to compete for current business.

Before the war it was considered an impossibility to maintain a plant under power at an operating rate of less than 40 or 50 per cent of capacity.

Copper.

The dullness of the copper situation is broken to some extent by the increasing demand from domestic consumers for various positions up to and including August.

The increasing interest undoubtedly has been developed by the lower prices that have prevailed both here and abroad during the last few days, but notwithstanding the larger inquiries and the increasing disposition of sellers to accept concessions, the volume of business transacted in both the major and outside markets is of small proportions.

The unsettled political outlook in Europe and the renewed downward tendency of European exchanges cause hesitation among European consumers.

The lower prices on the New York Stock Exchange react upon the London sentiment, where trade is still sensitive.

Although the British coal miners must eventually return to work at a lower scale of wages, they are still fighting the inevitable and thus holding back readjustment of industry. Copper products manufacturers are making every endeavor to reduce costs and the American Brass Company has announced another reduction in wages amounting to 10 per cent and effective July 1.

This brings the total wage reductions so far announced by this company to 20 per cent, and several

thousand employes in its plants at Waterbury, Ansonia and Torrington, Connecticut, and Kenosha, Wisconsin, are affected.

Advices from Houghton, Michigan, show that the Lake properties are not receiving any more business than are the other "coppers," but shipments on previous orders are moving a little more freely.

Three cargoes amounting to 5,000,000 pounds have just been shipped.

Tin.

With consuming operations in England practically at a standstill, on account of the coal strike which has now lasted nearly three months, it might be thought that efforts would be made to sell a larger quantity of tin in America, but there are no signs of this, and the small offerings continue to provide the chief support to the market.

The obstinate attitude of the producers in the Straits Settlements goes to prove their contention that tin can not be produced at the price at which it is now selling.

In Chicago a further reduction of $\frac{7}{8}$ cents per pound occurred in prices of tin during the week.

Lead.

The domestic outside market continues resistant to further depression as to prices for St. Louis deliveries, but New York suffered another shipment from abroad and prices were off 5 points to 4.35 cents a pound.

The softness in the New York market was due to a shipment of 2,500 tons of lead from Spain which increases stocks from this source in this country to approximately 5,500 tons.

All of this metal is being held for a stronger market and higher prices.

Chicago prices dropped 20 points during the week, making American pig lead now \$4.50 and bar lead \$5.25 per hundred pounds.

Solder.

No further decline took place in Chicago solder prices. Quotations now in effect are: Warranted, 50-50, per hundred pounds, \$21.00; Commercial, 45-55, per hundred pounds, \$19.50; and Plumbers', per hundred pounds, \$18.25.

Zinc.

Although the market is in a painfully dull condition sellers are refusing to entertain any business at less than 4.50 cents St. Louis for prime Western and for the past week or more a few orders have been taken each day at this price.

The demand so far this month has been no better than it was in May and as indications point to very small deliveries into consumption, the producers have fair warning that the output must be lower than last month to avoid a further increase in surplus stocks.

Slab zinc declined 10 points in the Chicago market, from \$4.90 to \$4.80 per hundred pounds.

Sheets.

The leading interest's operations were a shade heavier the past week than the week before and may be estimated at about 25 per cent.

Independent mill operations are estimated at under 20 per cent. Current bookings are so light that still smaller operations are to be expected.

There is no likelihood that the reduction in prices will bring any additional business into the market, and in some quarters it is said the development may tend to arrest what little business there is.

The leading interest adheres to its former prices, announced April 15th. As a statement has been given out that the Finance Committee of the Steel Corporation has not authorized the subsidiary companies generally to meet price competition one may assume that the company would not reduce its sheet prices without specific authority or recommendation from New York, and one can find no evidence today that such authority has been asked for.

The best guess seems to be that the leading interest will reduce within a very short time.

A reduction of 25 cents per hundred pounds, has taken place in Chicago prices of galvanized sheets.

Tin Plate.

Demand for tin plate continues to be of very limited proportions, altogether out of line with the season of the year. The demand there is, however, more or less seasonal, since it is chiefly from the packing trade, the general line trade taking almost nothing.

Producers continue their efforts to dispose of stocks, and everything that can be trimmed to fit is being taken out of stock. The stocks diminish rather slowly, however, and it may be two or three months before they are entirely liquidated.

The April 15th price of \$6.25 continues to be held as to production plates. On stock plates there is quite a range of prices depending on the availability of the sizes. On good sizes the leading interest is holding to \$6.25, prices being less and less as the size is unsuitable. Some independents are selling familiar sizes at \$5.75, which may perhaps be called the open market on stock plate. Some tin plate is offered at about \$5.00, this being chiefly squares made by cutting off defective portions of plates.

Old Metals.

Wholesale quotations in the Chicago district which should be considered as nominal are as follows: Old steel axles, \$13.00 to \$13.50; old iron axles, \$24.00 to \$25.00; steel springs, \$12.00 to \$12.50; No. 1 wrought iron, \$10.00 to \$10.50; No. 1 cast, \$12.50 to \$13.00; all per net tons. Prices for non-ferrous metals are quoted as follows, per pound: Light copper, 7 cents; light brass, 4 cents; lead, 3 cents; zinc, 2 cents; cast aluminum, 10 cents.

Pig Iron.

There is no doubt that if there were any orders in the market for appreciable tonnages of pig iron that lower prices would be developed, even by Eastern Pennsylvania producers, who have been holding the iron they have for sale \$2 to \$3 above the prices it can be purchased in other districts.

For the small tonnages coming out, however, nothing would be gained for the producer by quoting lower prices. Offering metal at further substantial declines would not bring out any more business at this time.

The weakness of the market, however, is demonstrated by the fact that whenever there is an inquiry for 1,000 tons or more, lower prices are developed, whether for foundry or steel-making iron.

Current Hardware and Metal Prices.

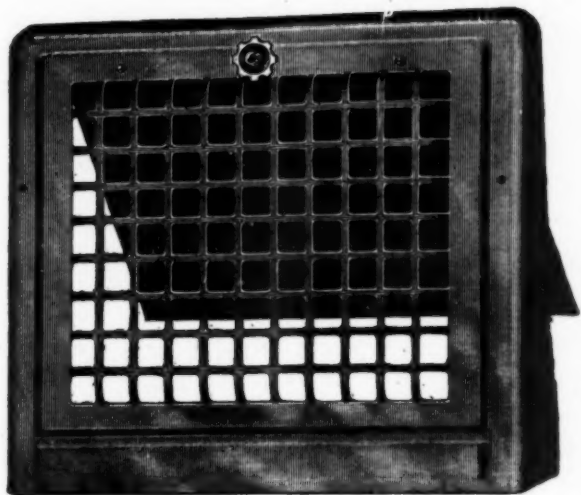
AMERICAN ARTISAN AND HARDWARE RECORD is the only publication containing Western Hardware and Metal prices corrected weekly.

METALS		HARDWARE		Scratch.		BEVELS, TEE.	
PIG IRON.		ADZES.		No. 18, socket Handledper doz. \$ 2 50		Stanley's Rosewood handle, new listNets	
Northern Fdy. No. 2.....\$21 70		Carpenters'.		No. 344 Goodell- Pratt, list less.....35-40%		Stanley iron handle.....Nets	
Southern Fdy. No. 2.....26 67		Plumbs.....Per doz. \$29 00		No. 7 Stanley...per doz. \$ 2 25		BINDING CLOTH.	
Lake Sup. Charcoal.....37 50		Coopers'.		AXES.		Zincd55%	
Malleable22 20		Barton'sNet		First Quality, Single		Brass40%	
FIRST QUALITY BRIGHT TIN PLATES.		White'sNet		First Quality Double		Brass, plated.....60%	
Per Box		Railroad.		Broad.		BITS.	
IC 14x20 112 sheets \$12 50		Plumbs.....Per doz. \$30 00		Plumbs. Can. Pat. 6-lb. 65 00		Auger.	
IX 14x20.....13 60		AMMUNITION.		Single Bitted (without handles).		Jennings Pattern.....Net	
IXX 14x20.....15 20		Shells, Loaded, Peters.		Plumbs, 4 1/2-lb.....12 50		Ford Car.....List plus 5%	
IXXX 14x20.....16 60		Loaded with Black Powder, 18%		Double Bitted (without handles).		Ford's Ship....." " 5%	
IXXXX 14x20.....18 10		Loaded with Smokeless		Plumbs, 4 1/2-lb.....23 50		Irwin35%	
IC 20x28.....25 00		Powder.....18%		BAGS, PAPER, NAIL.		Russell Jennings.....plus 20%	
IX 20x28.....27 20		Winchester.		Pounds .. 10 16 20 25		Clark's Expansive.....33 1/2%	
IXX 20x28.....30 40		Smokeless Repeater Grade,		Per 1000..\$5 00 6 50 7 50 9 00		Steer's " Small list, \$23 00..5%	
IXXX 20x28.....33 20		Smokeless Leader Grade,		BALANCES, SPRING.		" " Large " \$26 00..5%	
IXXXX 20x28.....36 20		Black Powder.....10 & 4%		Sight Spring.....Net		Irwin Car.....35%	
COKE PLATES		U. M. C.		StraightNet		Ford's Ship Auger pattern	
Cokes, 180 lbs... 20x28 \$14 20		Nitro Club.....18%		BARS, WRECKING.		CarList plus 5%	
Cokes, 200 lbs... 20x28 14 50		Arrow18%		V. & B. No. 12.....\$0 45		Center10%	
Cokes, 214 lbs...IC 20x28 14 85		New Club18%		V. & B. No. 24.....0 75		Countersink.	
Cokes, 270 lbs...IX 20x28 16 65		Gun Wads—per 1000.		V. & B. No. 324.....0 88		No. 18 Wheeler's...per doz. \$2 35	
BLUE ANNEALED SHEETS.		Winchester 7-8 gauge 10&7 1/2%		V. & B. No. 30.....0 85		No. 20 " " " 3 00	
Base.....per 100 lbs. \$4 13		" 9-10 gauge 10&7 1/2%		V. & B. No. 330.....0 90		American Snailhead " 1 75	
ONE PASS COLD ROLLED BLACK.		Powder.		BASKETS.		" Rose " 2 00	
No. 18-20.....per 100 lbs. \$5 20		Each		Clothes.		" Flat " 1 40	
No. 21-24.....per 100 lbs. 5 35		DuPont's Sporting, kegs..\$11 25		Small Willow...per doz. \$15 00		Mahew's Flat " 1 80	
No. 26.....per 100 lbs. 5 30		" 1/4 kegs 3 10		Medium Willow. " 17 00		" Snail " 1 90	
No. 27.....per 100 lbs. 5 35		DuPont's Canisters, 1-lb.. 56		Large Willow... " 20 00		Dowel.	
No. 28.....per 100 lbs. 5 40		" kegs.. 22 00		Galvanized. 1 bu. 1 1/2 bu.		Russel Jennings.....plus 20%	
No. 29.....per 100 lbs. 5 50		" canisters 1 00		Per doz.....\$16 08 \$18 72		Gimlet.	
GALVANIZED.		Hercules "E.C." kegs.....22 50		BEATERS.		Standard Double Cut Gross \$8 40	
No. 16.....per 100 lbs. \$5 40		Hercules "Infallible," 25-can		Per doz.		Nail Metal Single	
No. 18-20.....per 100 lbs. 5 55		drums22 00		No. 7 Tinned Spring Wire..\$1 10		CutGross \$4 00—\$5 00	
No. 22-24.....per 100 lbs. 5 70		Hercules "Infallible," 10-can		No. 8 Spring Wire Cop-		Reamer.	
No. 26.....per 100 lbs. 5 85		drums9 00		pered1 50		Standard Square.....Dow. \$2 50	
No. 27.....per 100 lbs. 6 00		Hercules "E.C." and "Infal-		No. 9 Preston.....1 75		American Octagon... " 2 50	
No. 28.....per 100 lbs. 6 15		lible," canisters.....1 00		Carpet.		Screw Driver.	
No. 30.....per 100 lbs. 6 65		Hercules W. A. 30 Cal. Rifle,		No. 7 Tinned Spring Wire..\$1 10		No. 1 Common.....30	
BAR SOLDER.		canisters1 25		No. 8 Spring Wire Cop-		No. 26 Stanley.....75	
Warranted,		Hercules Sharpshooter Rifle,		No. 9 Preston.....1 75		BLADES, SAW.	
50-50.....per 100 lbs. \$21 00		canisters1 25		Egg.		Wood.	
Commercial.		Hercules Bullseye Revolver,		No. 50 Imp. Dover.....\$1 10		Disston 30-in.	
45x55.....per 100 lbs. 19 50		canisters1 00		No. 102 " " Tinned 1 35		Nos.6 66 36	
Plumber's.....per 100 lbs. 18 50		ANVILS.		No. 150 " " hotel 2 10		\$9 45 \$10 05 \$9 45	
ZINC.		Solid Wrought...23 & 23 1/2c per lb.		No. 10 Heavy hotel tinned 2 10		BLOCKS.	
In Slabs\$4 80		ASBESTOS.		No. 13 " " " 3 30		Wooden20%	
SHEET ZINC.		Paper up to 1/16.....10c per lb.		No. 15 " " " 3 60		Patent30%	
Cask lots11c		Millboard 3/32 to 1/2..10 1/2c per lb.		No. 18 " " " 4 50		BOARDS.	
Less than cask lots...11 1/4-11 1/2c		Corrugated Paper (250		Hand.		Per doz.	
COPPER.		sq. ft.).....\$6.50 per 100 lbs.		8 9 10 12		24x24\$13 65	
Copper Sheet, mill base...\$0 21 1/4		Rollboard11c per lb.		Per doz.\$11 50 13 00 14 75 18 00		26x2616 95	
LEAD.		AUGERS.		Moulders'.		28x2818 85	
American Pig\$4 50		Boring Machine.....40 @ 40&10%		12-inchPer doz. 20 00		30x3021 30	
Bar5 25		Carpenter's Nut.....50%		BELLS.		32x3225 50	
Sheet.		Hollow.		Call.		36x3630 50	
Full coils.....per 100 lbs. \$7 75		Bonney's.....per doz. \$30 00		3-inch Nickeled Rotary Bell.		Wash.	
Cut coils.....per 100 lbs. 8 00		Post Hole.		Bronzed base...per doz. \$5 50		No. 760, Banner Globe	
TIN.		Iwan's Post Hole and Well...30%		Cow.		(single)per doz. \$5 25	
Pig tin.....32c		Vaughan's, 4 to 9 in.		Kentucky30%		No. 652, Banner Globe	
Bar tin.....34c		Rotz.....per doz. \$14 00		Door.		(single)per doz. 6 75	
AWLS.		Ship.		New Departure Automatic \$7 50		No. 801, Brass King, per doz. 8 25	
No. 3 Handled...per doz. \$0 65		Ford'sNet		Rotary.		No. 860, Single—Plain	
No. 1050 Handled " 1 40		Brad.		3 -in. Old Copper Bell... 6 00		Pump6 25	
Patent asst'd, 1 to 4 " 85		No. 3 Handled...per doz. \$0 65		3 -in. Old Copper Bell,		BOLTS.	
Harness.		Common1 05		fancy8 00		Carriage, Machine, etc.	
Common1 05		Patent1 00		3 -in. Nickeled Steel Bell 6 00		Carriage, cut thread, 1/4x	
Patent1 00		Peg.		3 1/2-in. Nickeled Steel Bell 6 50		and sizes smaller and	
Shouldered1 60		Shouldered1 60		Hand.		shorter50 & 5%	
Patented75		Patented75		Hand Bell polished List plus 15%		Carriage sizes larger and	
Each\$3 00 3 75 5 50 7 25		Each\$3 00 3 75 5 50 7 25		White Metal.....15%		longer than 1/4x.....50%	
				Nickel Plated.....5%		Machine, 1/4x4 and sizes	
				Swiss10%		smaller and shorter.....60%	
				Miscellaneous.		Machine, sizes larger and	
				Church and School, steel		longer than 1/4x.....50 & 10%	
				alloys30%		Stove70%	
				Farm, lbs.. 40 50 75 100		Tire50 & 10%	
				Each\$3 00 3 75 5 50 7 25		Mortise, Door.	
						Gem, iron.....5%	
						Gem, bronze plated.....5%	

STEARNS'

STEEL BASE AND CONVEX WALL

REGISTERS

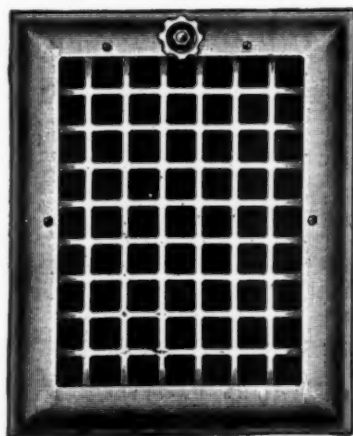


THE fact that STEARNS' STEEL BASE and CONVEX WALL REGISTERS are proving themselves so much superior to others that they are given preference, proves beyond a doubt that they possess real value. Their distinctiveness, reliability and attractiveness have won the praise and endorsement of men capable of judging them.

These Men Are Practical Installers

Their decision should convince you. They are selling STEARNS' STEEL BASE and CONVEX WALL REGISTERS and reaping the profit.

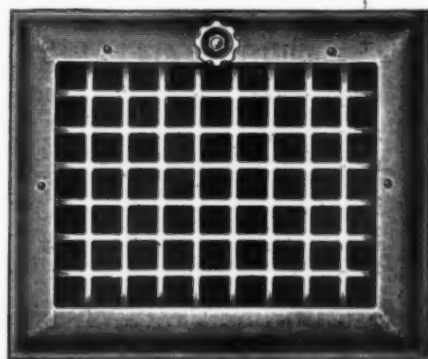
STEARNS' STEEL BASE REGISTERS represent the latest in warm air register construction. They are sturdily built and very highly finished. They give the full capacity, both in the face and box, for the size pipe they are intended for. They are guaranteed against breakage. You can always have the exact size in STEARNS' STEEL BASE REGISTERS as they are furnished in 5 sizes, from 8x10 to 11x13, in black or white japan or electroplated finishes.



Steel Wall Register—Vertical

STEARNS' CONVEX STEEL WALL REGISTERS are neat in design and they also can be had in black or white japan or electroplated finishes, in sizes from 8x10 to 9x12.

Have a stock on hand. Use them on every installation. They will please your customers and give you a good profit.



Steel Wall Register—Horizontal

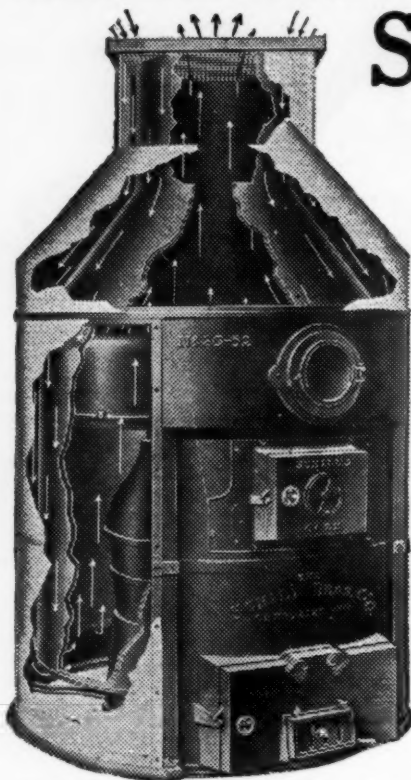
Write today for our catalog and price list.

STEARNS' REGISTER COMPANY

617 East Fort Street

DETROIT, MICHIGAN

DEALERS—Write today for details on



SCHILL'S PIPELESS Warm Air Heater

This new idea is really an evolution in heating. Everywhere the popularity of the Pipeless Heater is increasing. You should not fail to get your share of this profitable business. Also you should not fail to handle a **good** Pipeless Heater. **SCHILL'S PIPELESS Warm Air Heater** is of the very best quality. It will burn hard and soft coal or wood. It is just the heater for moderate size homes, bungalows, churches, stores and other buildings. This heater is **guaranteed** so that you can assure your customers of complete satisfaction. Many testimonials from satisfied users testify to its true merit.

Write now for full particulars.

THE SCHILL BROTHERS COMPANY
CRESTLINE, OHIO



"HOME COMFORT"

**THERE ARE NO BETTER
WARM AIR HEATERS**

THE dealer who sells "Home Comfort" warm air heaters sells heaters that are not only exceptionally reliable but distinctively well made.

An examination of the ALL STEEL construction of "Home Comfort" warm air heaters will reveal to you an unusually well designed heating apparatus.

***For many years they have been
real money makers***

The members of this new company are men who have been connected with the original makers for more than twenty years.

We have a splendid exclusive agency sales plan to offer you.

Let us tell you all about it.

Write today for our catalog

ST. LOUIS HEATING CO.
2400-06 COLEMAN ST. ST. LOUIS, MO.



THE Weir Furnace makes profits for the dealer and further profits from the friends of early buyers who delight in telling their neighbors about what a corking good heating plant they have.

Isn't that the kind of a furnace you'd like to sell?

Meyer Furnace Co.
PEORIA, ILLINOIS

Northwestern Distributors
Standard Furnace & Supply Co., Omaha, Nebraska

Southwestern Distributors
Meyer Furnace & Supply Co., Kansas City



Why
has
the
PREMIER
made
such
a
big
success?

Why
have
hundreds of
dealers become
**PREMIER
REPRESENTATIVES?**

Because it's a Heating System built as They would build it. The PREMIER is the result of practical experience.

Premier Warm Air Heater Co.
Manufacturers of
PIPE AND PIPELESS WARM AIR HEATERS
Dowagiac, Mich.



BUILT LIKE A POWER BOILER

The AMERICAN BOILER PLATE WARM AIR HEATER

is built of heavy boiler plate, riveted and calked like a power boiler. The fire brick prevents that dry, parched air condition that you get from unlined fire pots. The **AMERICAN BOILER PLATE WARM AIR HEATER** is built on vertical lines because it is a well established fact that radiant heat produces no perceptible effect upon air, and that air can only be heated by direct contact with heated surfaces. Heated air rises in straight currents, and in the **AMERICAN BOILER PLATE WARM AIR HEATER** it keeps in direct contact with the entire surface because of its vertical construction.

This is the reason for its great heating capacity. **DEALERS**—Send now for our full particulars and our dealer proposition. **Now** is the time to take this step towards increasing your business.

Also Makers of the **THERMO CAST IRON FURNACES**

Thermo Pipeless Furnace and Afco Room Heater

WRITE TODAY FOR OUR CATALOGS

AMERICAN FURNACE CO.

2719 to 2731 Morgan Street ST. LOUIS, MISSOURI



THE NEW FLORAL CITY FURNACE

THE New Floral City Furnace is now ready for distribution and we invite your inquiries.

Note the large fire chambers and immense direct fire surface.

A heavy all cast furnace of the highest quality.

Has slotted fire pot, large double fire door and will burn any kind of fuel.

A powerful, durable and economical heater.

Write for our new prices

Our agency will prove profitable to you

THE MONROE FOUNDRY & FURNACE CO.
MONROE, MICH.

Direct Draft Damper Rod

One Piece Cast Dome



The Jobber who handles —→ is assured of Speedy Service and Satisfied Customers

MARSH
WOOD FACES

MANUFACTURED BY

THE MARSH LUMBER CO.
DOVER, OHIO

Largest Wood Face Manufacturers in the World

← Every Furnace Installer should use and be assured of a satisfactory installation

Never make the same mistake twice—if you were not advertising yesterday, start today.



The New Wise Pipeless Warm Air Heater



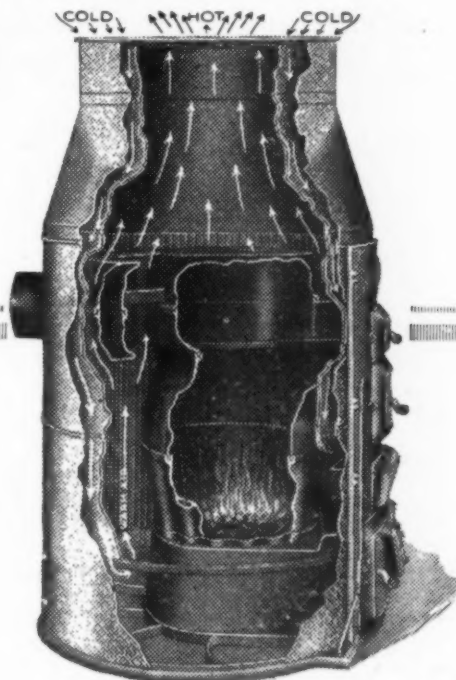
is a high grade efficient heater—selling at a fair price—a price that will get business for you NOW.

We want to show you just how good this new Wise heater is—we want to show you why we deem it worthy of being offered to the trade together with our regular line of Wise Pipe Warm Air Heaters.

Let us talk business NOW.

Write today for full details, agency plan and prices.

WISE FURNACE COMPANY
Akron, Ohio



(Patent Pending)

Wise *Pipe and Pipeless* Warm Air Heaters

How Do You "Stack Up" With Your Competitors?

Your competitor makes as many "turn-overs" as possible but you can go him one better if you buy

NESBIT

and

WEIR

ALL CAST

ALL STEEL

FURNACES



Handy Pipe and Fittings
Rock Island and H & C Registers
and
Everything That's Good in Furnace Supplies

*We Carry the Stock and Ship
When You Want It*



STANDARD FURNACE & SUPPLY CO.

407-413 So. 10th Street

Omaha, Nebraska

A Name you can tie to—
A Pipe you can bank on.



(Trade Mark Reg. U. S. Pat. Off.)

The Pipe That Outlasts the Furnace

When properly installed it becomes a part of the furnace itself and nothing but an earthquake or a cyclone can jar it loose.

Knox Everlasting Cast Iron Smoke Pipe

in smoke pipes is as Sterling in Silvers.

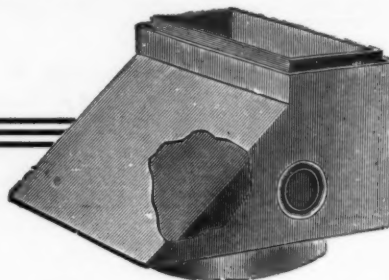
It is the last word in Smoke Pipes—it's the first word in Safety, Security, Protection, Satisfaction and Profit.

It does away with smoke pipe troubles for all time. It is not affected by soot or corrosion. It does not burn out, fall out, scale or crumble. It is easy to put up as it comes in sections of varying lengths with elbows from 22½ to 90 degrees so that it will fit into almost any space. It nests closely for shipping, making a saving in freight and store room.

It is the biggest business builder ever offered the trade. It is manufactured exclusively by us and is sold through the jobbers and the dealers. A trial order will convince you. Send it to any of the following. Descriptive circulars gladly sent if desired.

WATERLOO REGISTER COMPANY WATERLOO IOWA

Manny Heating Supply Co., 131 West Lake St., Chicago
Omaha Stove Repair Works, Omaha, Neb.
Wm. Warnock Company, Sioux City, Iowa.
Lincoln Stove Repair Works, Lincoln, Neb.
Leighton Supply Co., Fort Dodge, Iowa
W. C. Teschner, Vincennes, Ind.
Field & Shorb Co., Decatur, Ill.



Double wall for Safety Double value for You

Installers who use it find it not only efficient and exceptionally high grade but economical and very easy to put together.

MICHIGAN Safety Furnace Pipe

can always be shipped to you promptly. Our large factory is equipped to meet all demands.

If you have not received our latest catalog and price list, write for them today.

**MICHIGAN
SAFETY FURNACE PIPE CO.**
623 East Fort Street
Detroit, Michigan

FURNACE FITTINGS



DOUBLE
OR
SINGLE

Our ACME Double Wall Pipe locks together automatically and perfectly, making it easy to assemble and install.

GET CATALOGUE **Simplified ACME Fittings** PLACE ORDER

Manufactured by

CARR SUPPLY COMPANY
412-414 North Dearborn Street Chicago, Illinois
REGISTERS TIN AND GALVANIZED FITTINGS
FURNACES ALL WARM AIR HEATING SUPPLIES

Many dealers are making big profits selling the

VICTOR STEEL WARM AIR HEATER

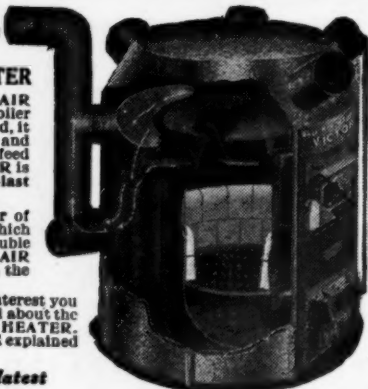
The VICTOR STEEL WARM AIR HEATER is made of heavy boiler plate and all joints are riveted, it has no cement packed joints and it will not crack or bust. The feed door on the VICTOR HEATER is fitted with Neal's Hot Blast Plate (Patent Applied for).

Notice also the steel radiator of the VICTOR HEATER which makes it practically a double heater. All VICTOR WARM AIR HEATERS are equipped with the Neal Sectional Casing.

This is a new idea that will interest you very much. Let us tell you all about the VICTOR STEEL WARM AIR HEATER. It has many other features, all explained in our catalog.

Write today for our latest catalog.

HALL-NEAL FURNACE CO.
NOW IN OUR NEW MODERN FACTORY
1322-24-26 N. CAPITOL AVE., INDIANAPOLIS, IND.



100 Tinsmiths' Patterns Complete for \$1.00

Sent postpaid on
receipt of price

**AMERICAN ARTISAN
AND
HARDWARE RECORD**
620 So. Michigan Boulevard, CHICAGO, ILL.

RYBOLT

RELIABLE WARM AIR HEATERS

CONTINUOUS satisfactory performance has proven the **RELIABILITY** of **RYBOLT WARM AIR HEATERS**. Exclusive features of construction have been responsible for this excellent showing. **BIG SALES** and **GOOD PROFITS** have been the results of both for the dealers selling **RYBOLT WARM AIR HEATERS**.

SECURE THE RYBOLT AGENCY NOW

The **RYBOLT AGENCY** will interest you. It is a very liberal proposition that we offer our dealers. If you are a live wire and can handle a large territory, it's yours, if it is still open. Write us today and ask about the **RYBOLT AGENCY** for your locality.

Our catalogs and circulars give the complete details of construction, features and heating ability of **RYBOLT WARM AIR HEATERS**.

WRITE TODAY FOR ILLUSTRATED CATALOGS.

THE RYBOLT HEATER CO.

ASHLAND, OHIO

BRANCHES
Cincinnati, Ohio Indianapolis, Ind. Akron, Ohio



Notice the construction of the radiator and combustion chamber.

This feature means more radiating surface and full heating value from all fuel burned.

BOOMER

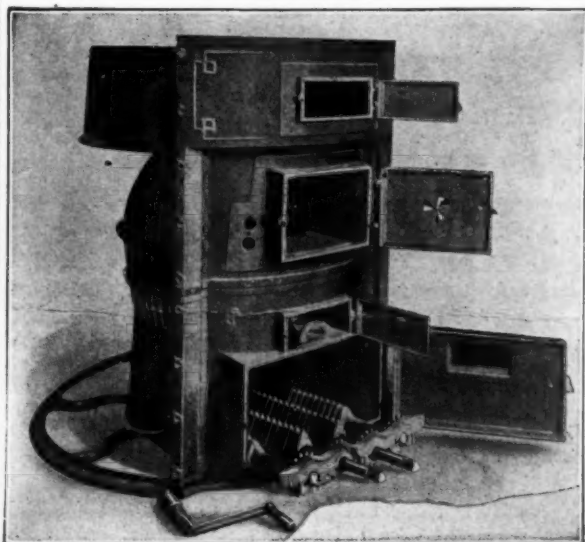
furnaces have been successfully made and sold for over 36 years. They have other good features that help dealers make sales. **BOOMER DEALERS** get real cooperation from us. Write today for our latest catalog and let us tell you all about it.

THE HESS-SNYDER COMPANY
MASSILLON, OHIO

The "BILT-RITE" Series

High Grade Efficient Heaters

PIPE AND PIPELESS



YOU can get the orders for high class heaters with this line and there is a size for every need, Pipe and Pipeless.

Write us now for full particulars. Let us tell you more about our high quality line and the profits and satisfied customers it can bring you.

Ask about our agency for your territory
Write for illustrated circular today

THE HAMMOND HEATING CO.
110 East 2nd Street CINCINNATI, OHIO

ATH-A-NOR

PIPE AND PIPELESS

Warm Air Heaters

YOUR prospective customer may be able to buy a good serviceable warm air heater of another make for about the same price that he would pay for an **ATH-A-NOR**, but he couldn't buy a *better* warm air heater *at any price*.

Ath-A-Nor Warm Air Heaters have been made and sold for over fifty years.

Write for Agency details

THE
MAY-FIEBEGER
FURNACE CO.
NEWARK, OHIO

Distributors

Excelsior Heating Supply Co.
Kansas City, Mo.
The Kelly-How-Thomson Co.,
Duluth, Minn.



WALWORTH

Double Grating
for
**PIPELESS
FURNACE**

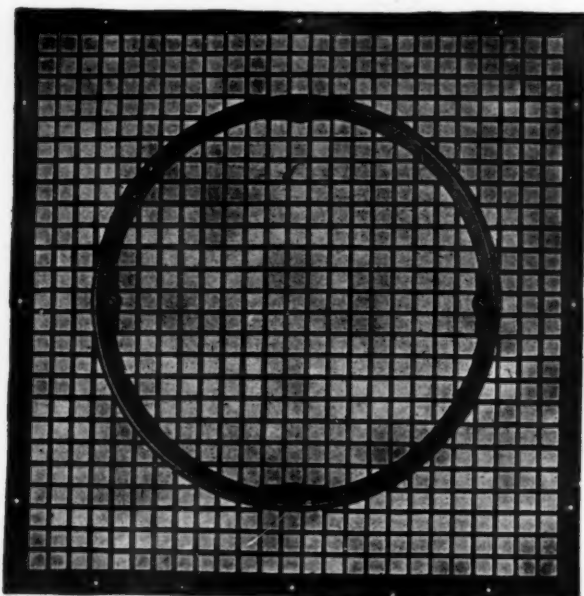


Illustration shows plain lattice design. A neat, strong and durable grating.

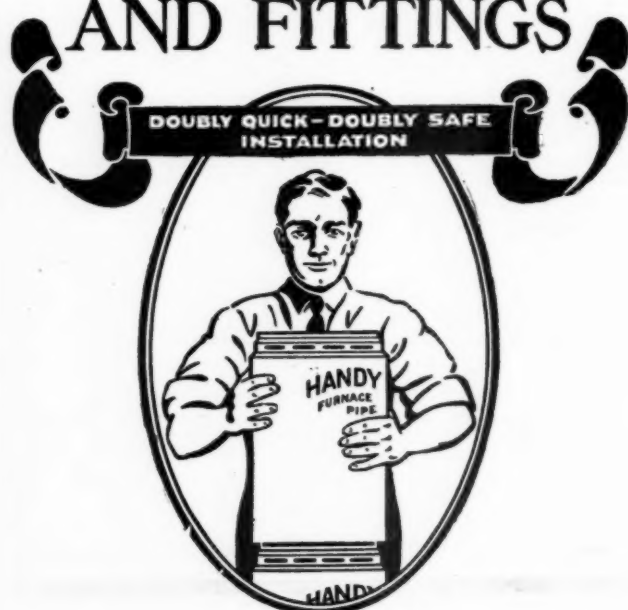
WALWORTH Gratings for Pipeless Furnaces are made in seven standard sizes from 22 x 24 to 45 x 45. We carry a complete stock at all times and are able to fill orders for any quantity promptly.

*Write us today for
Catalog and Prices*

**Walworth Run
Foundry Company**

W. 27th St. and N. Y. C. & St. L. R. R.
Cleveland, Ohio

THE NEW CATALOGUE OF HANDY FURNACE PIPE AND FITTINGS



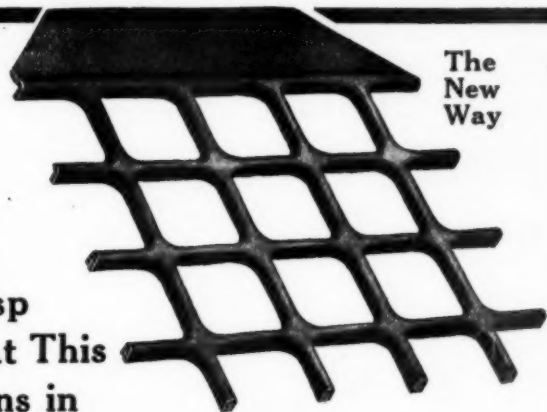
F. MEYER & BRO. CO.
PEORIA, ILLINOIS

**It is Now Ready
for
Distribution**

**Drop Us a
Card
For Your Copy**

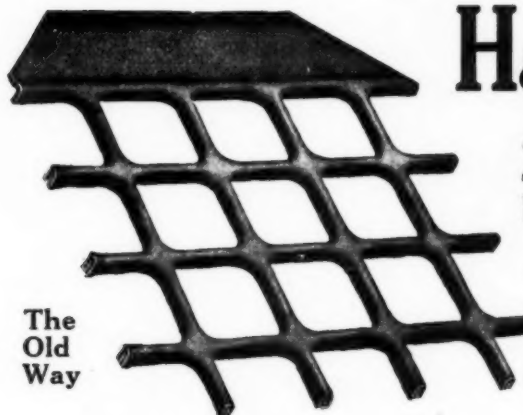
F. MEYER & BRO. CO.
Peoria, Illinois

Do
You
Grasp
What This
Means in



The
New
Way

Saving on Registers?



The
Old
Way

H&C

28%
Increased
Air
Capacity

The Hart & Cooley Co., Inc.

New York

New Britain, Conn.

Chicago

WRITE FOR CATALOG

STOVE BOLTS
STOVE RODS
STOVE RIVETS

THE KIRK-LATTY MFG. CO.

Cleveland

Cleveland

PATTERNS FOR STOVES
AND HEATERS

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for
FURNACES AND HEATERS

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QUINCY, ILLINOIS

PATTERNS

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IN WOOD and IRON

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QUICK MEAL COAL RANGES

**ARE FINISHED IN BLUE,
WHITE, GRAY OR BLACK**

FUSENAMEL

WRITE FOR PARTICULARS

QUICK MEAL STOVE CO.

DIVISION OF AMERICAN STOVE CO.

ST. LOUIS, MO.

Barrel. CastNet Wrought Wrought, bronzed..... Flush. Wrought Spring. Wrought Wrought, heavy..... Square. Wrought	CEMENT, FURNACE. American Seal, 5 lb. cans, net \$ 45 " " 10 lb. cans, " 90 " " 25 lb. cans, " 1 87 Asbestos, 5 lb. cans..... 45 Pecora, 5 lb. cans..... 45 " 10 lb. cans..... 90 " 25 lb. cans..... 1 87 CHAINS. Brenat Chains, With Slide.....doz. pairs, 5 50 Without Slide..... " 5 06 Doubleslack..... " 9 35 With Covert Snaps " 6 38 Picture Chains. Light Brass, 3 ft. per doz. 1 25 Heavy Brass, 3 ft. " 1 75 Sash Chain. (Morton's) Steel, per 100 ft. 0 \$2 50 2 3 10 1 3 60 Champion Metal. 0R 5 40 2R 5 60 1R 7 75 Champion Metal.—Extra Heavy. 1H \$9 50 Cable Sash Chains. Steel.....List Net Plus 15% CHALK, CARPENTERS'. Blueper gro. \$1 40 Red " 1 40 White " 1 25 Common White School " 25c Crayon " 25c CHIMNEY TOPS. In bagsper bag \$1 70 CHECKS, DOOR CorbinNet List Russwin20% CHISELS. Cold. Good quality, 1/2 in., each \$0 44 " 1/4 in., " 0 28 Diamond Point. V. & B. No. 15, 1/4 in..... 0 23 V. & B. No. 15, 1/2 in..... 0 48 FIRMER BEVELLED. Berg's (Swedish). 1/2-inch, per doz.....\$ 4 45 1- " " " 7 15 1 1/2- " " " 10 15 2- " " " 17 15 2 1/2- " " " 26 95 Round Nose. V. & B. No. 65, 1/4 in..... 0 23 V. & B. No. 65, 1/2 in..... 0 44 SOCKET FIRMER. Berg's (Swedish). 1/2-inch, per doz.....\$11 95 1- " " " 16 75 1 1/2- " " " 23 95 2- " " " 26 95 Cape. V. & B. No. 50, 1/4 in..... 0 29 V. & B. No. 50, 1/2 in..... 0 64 CHUCKS, DRILL. Goodell's, for Goodell's Screw DriversList less 35-40% Yankee, for Yankee Screw Drivers\$6 00 CHURNS. Anti-Bent Wood, Gal. 5 7 10 Each\$3 00 4 60 4 85 Belle, Barrel65&7 1/2% Common Dash, Gal. 5 7 Per doz.\$17 00 19 00 CLAMPS. Adjustable. Martin's30% No. 63, Screw.....20% Cabinet. Screw30% Carpenters'. Steel Bar..List price plus 25% Carriage Makers'. 2 1/2"per doz. \$ 7 00 5" " 14 00 8" " 28 00 12" " 46 00	Quilt Frame. No. 30 Ball and Socket, 2 1/2" head....per gross \$13 00 No. 50 Ball and Socket, 3 1/2" head....per gross 14 50 Hose. Sherman's, brass, 1/2", per doz.\$0 48 Double, brass 1/2", per doz. 1 20 Saw Fillers. Wentworth's, No. 1, \$12 50; No. 2, \$18 25; No. 3, \$15 25. CLAWS, TACK. Wood hdl. No. 10...per doz. \$0 95 Forged steel, wood hdl. " 1 75 Solid steel " 2 40 Giant " 50 CLEANERS. Drain. Iwan's Adjustable.....25% Iwan's Stationary.....30% Pot. Wireper doz. \$0 75 CLEAVERS. Family. Beatty's, Inch..... 7 8 9 10 Per doz. \$27 00 29 00 33 00 36 00 CLEAVISES. Malleable10c lb. CLIPPERS. Bolt\$2 25 & 6 00 CLIPS. Axle65 @ 5% Damper. Standardper doz. 70c Troy " 38c Hame " 50c COLLARS, STOVE PIPE. Lacquered, Inches 5 6 7 Fancy pattern, per doz.... 80c 85c \$1 15 COMPASSES. Carpenters'15% COPPERS—Soldering. Pointed Roofing. 3 lb. and heavier....per lb. 37c 2 lb. " " " 38c 2 1/2 lb. " " " 37c 1 1/2 lb. " " " 40c 1 lb. " " " 43c CORD. Picture. White Wire60 & 5% Sash. Sampson Spot, No. 7, per doz.\$10 35 COTTERS, SPRING. All sizes87 1/2% COUPLINGS, HOSE. Brassper doz. \$2 25 CRADLES, GRAIN. Morgan's Grapevine per doz. \$45 00 CUTTERS. Glass. Woodward40% Meat. Enterprise—Nos. 5 10 12 Each.... \$2 50 \$4 25 \$3 75 Nos. 23 32 " 6 50 8 50 Pipe. Saunders's, No. 1 2 3 Each\$1 85 2 75 3 75 Slaw and Kraut. Per doz. 4-knife Kraut.....\$20 00-55 00 3-knife Kraut, 8x27 in. 13 00-18 00 1-knife Slaw..... 2 50 2-knife Slaw..... 3 00 Washer 11 00 DAMPERS, STOVE PIPE. Diamond. All sizes50%	DIGGERS. Post Hole. Eureka.....per doz. \$14 50 Iwan's Split Handle (Eu- reka) 4-ft. Handle...per doz. 15 00 7-ft. " " " 20 00 Iwan's Hercules pattern per doz. 18 00 Dividers, Wing25% DRILLS. Blacksmiths' Twist (New List)40% Brenat. Millers Falls No. 12, each \$46 00 " " 112, " 26 00 Hand. Goodell's Automatic. Nos. 01 03 Per doz. 12 00 14 40 Goodell's Single Gear, per doz. 15 75 Goodell-Pratt No. 4 1/2, per doz. list, less.....30% Goodell-Pratt No. 379, per doz. list, less.....30% Reciprocating. Goodell's..... per doz. 28 00 DRIVERS, SCREW. StandardNets Lock Ferrule Clark's Interchangeable..... Goodell's Spiral Yankee's Ratchet " Spiral EAVES TROUGH. 70 & 10% off Standard List. ELBOWS—Stove Pipe. 1-piece Corrugated, Uniform. Dox. 5-inch\$1 50 6-inch 1 60 7-inch 2 10 Uniform, Collar Adjustable. Dox. 5-inch\$1 90 6-inch 2 00 7-inch 2 50 ELBOWS—Conductor Pipe. Galvanized Steel, Tin and Terne, Round Corrugated. Size Doz. 2-inch60% 3-inch60% 4-inch60% 5-inch60% 6-inch60% ENAMEL, STOVE. Iron, Black. Per Gross Peerless Gloss, 1/4 pt.....\$16 20 " " 1/2 pt..... 21 00 Per doz. " " 1/4 gal.....\$12 00 " " 1 gal..... 21 00 Aluminum Per Gross Peerless, 1/4 pt.....\$43 60 " 1/2 pt..... 61 20 EMERY. Domestic, lb.11 1/2c FASTENERS, STORM SASH. Shroeder'sper doz. \$1 50 Sensible " 3 00 FILES AND RASPS. Simonds'50% Dinsdon's50% Heller's (American)50&10% American50-10-5% Arcade50-10-4% Black Diamond40-10-3 1/2% Eagle50-10-1% Great Western50-10-5% Kearney & Foot.....50-10-5% McClellan50-10-5% Nicholson40-10-2 1/2% J. Barton Smith.....50-10-5% X FNet List FIRE POTS. Clayton & Lambert's— each\$4 00 @ \$6 00 Gate Cityeach 6 25 Gemeach, \$6 75 @ \$ 50
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FORKS. Manure. 4-tine.....New prices	Coal Pick40% Drifting Pick40% File, assorted, 30c; Large, 35c per doz.	HOOKS. Awning, No. 60.....per gro. 50% Belt. Brown's70&5% Jones'65&5%	KNIVES. Beet Topping. Clyde, 9-in. Scimitar Blade, doz.\$3 85 California 3 40
GAUGES. Cream Fall. Fairmount.....per doz. \$3 75 Marking, Mortise, etc.Nets	Hammer. Adze Eye...per doz. 40c to \$1 00 Blacksmiths' " 45c to 1 00 Machinists' " 50c to 1 00	Box. No..... 8 3 10 12 Each\$0 25 0 77 0 35	Butcher. Per doz. Beechwood Handles, 6" blade\$4 00 Beechwood Handles, 7" blade 4 65 Beechwood Handles, 8" blade 5 65
Wire. Diston's35% GIMLETS. Discount35&40%	Hay and Manure Fork25% Screw Driver. Assorted 6 Large 9	Bush. Common Axe Handle, per doz.\$22 00	Cooper's Hoop15%
GLUE. Bulk. B Amber.....per lb. 35c A White..... " 40c H. S. Amber..... " 32c	Shovel and Spade25% HANGERS. Barn Door. U. S. Roller Bearing.....12½% Matchless12½% Warehouse Tandem, No. 4433½%	Chain. Inch.. ¼&5/16 ¾ 7/16 ¾ Pr. 100 \$7 60-8 10 9 75 11 50 12 60	Corn. Clipperper doz. \$1 75 Diston's " 2 75 Earle's " 3 60 Woodford " 2 25
Liquid. Army & Navy.....40% Le Page's— List "A".....37½% List "B".....32½% List "C".....35 %	Conductor P. Iwan's Perfection.....45% Eaves Trough. All sizes, 5" or smaller,per gross \$3 80 Net All sizes, larger than 5"per gross 5 00 "	Clothes Line. Japannedper doz. 48c to 1 40 Galvanized.... " 75 to 2 50	Drawing. StandardList&5% Adjustable15% Barton's Carpenters'15%
GREASE, AXLE. Wood Boxes. Frazer'sper gro. \$13 00 Hub Lightning..... 7 50	Garage Door. Right Angle50&10% Sliding Folding50% Receding50%	Coat and Hat. Common Wire per gro. 1 25-1 65	Hay. Iwan's Solid Socket..doz. 12 00 Heath's " 13 00 Iwan's, Sickle Edge.. " 18 00 Iwan's Imp'd Serrated " 18 00
Wood Falls. Frazer's, 15 lb. \$1.00; 25 lb. \$1.50 each. Hub Lightning, 15 lb. 90c; 25 lb. \$1.21 each.	Parlor Door. Acmeper set. \$3 75 Ives' Improved.... " 3 40 Lane's Standard... " 3 50 Lane's New Model " 3 10 Le Roy Noiseless....40&10% Richards25% Advance40&10%	Conductor. Iwan's Tinned Sickle.....List	Hedge. Challengeper doz. \$4 00 Diston's " 2 75
Tin Cans. Frazer's. 1½ lb. per doz.....\$1 75 2 lb. per doz..... 3 25	Grindstones. Inches.. 7 8 10 12 Per doz. 20 50 21 75 24 25 30 50	Grass. Common Nos. 1 3 5 7 Per Doz...\$4 50 3 50 3 75 3 25	Mincing. Common, Single .. " 65 Common, Double.. " 95 Streeter, 4-blade.. " 1 25 Streeter, 6-blade.. " 2 00
Family. Mounted. Ball Bearing.. 1 2 3 Each\$4 75 5 00 5 25	HASPS. Hinge, Wrought..Add 50% to list With Staples—See Staples.	Hammer. With plate.....per doz. 1 10 With screw..... " 1 00	Patty. Common ...per doz. \$0 75 to 1 50 Landers ... " 1 75 to 2 50
GUNS. Iver Johnson Champion Single Barrel Shot Guns.....Net Double Barrel, Hammerless.. "	HATCHETS. Plumbs, Claw No. 1.....\$1 65 Cast Claw, per doz.. 1 50 to 1 85 Cast Shingling " 1 50 to 1 85 Germantown7½% Plumbs, Octagon, Half.....\$2 00 Plumbs, Broad, No. 1..... 1 90 Plumbs, Lathing No. 1..... 1 50	Picture50%&50%&10%	Scrapping. Beech Handle 90 to 1 10 Landers' 5 50 to 6 50
HAFTS, AWL. Brad. Commonper doz. \$0 35	HAY RACK BRACKETS. Wenzleman's No. 1per doz. sets \$13 00 Wenzleman's No. 2per doz. sets 19 20	Plane. Wood Bench..Add 10% to list	Door. Mineralper doz. \$1 20 Porcelain " 1 90 Jet " 2 00
GRINDSTONES. Inches.. 7 8 10 12 Per doz. 20 50 21 75 24 25 30 50	HINGES. Blind. Clark's Gravity No. 1.....per doz. sets, \$2 25 No. 3..... " " 5 75	HUSKERS. Boss. Nos. B E Per doz.....New Nets No. 59.....per doz. New Nets	LADDERS. Common Long. Per ft.17c&23c
Mounted. Ball Bearing.. 1 2 3 Each\$4 75 5 00 5 25	Gate. Clark's 1 2 3 Hgs & Lth, dz. \$5 50 7 00 9 75 Hinges only " 4 75 5 50 8 00 Latches only, 1 90 1 90	Sad. Charcoalper doz. \$11 00 Common, polished, per 100 lbs. 7 75 No. 70 Asbestos.....\$1 50 net No. 100 " 1 75 net Common, nickel plated.... 8 25	Extension. Per ft.22 to 28
GUNS. Iver Johnson Champion Single Barrel Shot Guns.....Net Double Barrel, Hammerless.. "	Screen Door. 1751—3x3doz. \$2 30 1753—2½x2½ " 2 15	Tailors' Sadper lb. " Tailors' Goose.....per lb. "	Step. Common, per ft.....23c Common, with Shelf, add 10c.
HAFTS, AWL. Brad. Commonper doz. \$0 35	Spring. ChicagoAdd 12½% to list Gem25% Ideal Detachable, per gro. \$11 00 Matchless40% New Idea.....per gro. \$7 20 Oxford20%	Tuyere. Single Duck Nest per doz. \$5 25 Double Duck Nest.. " 6 25 Suttoneach 2 60	IXL34c Challenge, 6 to 9 ft.....55c 10 to 16 ft.....60c
GRINDSTONES. Inches.. 7 8 10 12 Per doz. 20 50 21 75 24 25 30 50	Wrought Iron. Per 100 pairs with screws: Light Strag Hinges, No. 3 \$13 20 Heavy Strap Hinges, No. 4 16 50 Light T Hinges.....No. 3 12 60 Heavy T Hinges.....No. 4 20 60 Extra Heavy T Hinges, No. 4 22 50	Locomotive30% Wagon. Richard's No. 1..per doz. \$15 50 Miller 20 00	LANTEANS. Bull's Eye Police. 3-in. Flash Light per doz. \$18 00
HAFTS, AWL. Brad. Commonper doz. \$0 35	Screw Hook and Strap. 6 to 12 in....per 100 lbs. \$7 75 14 to 20 in.... " 7 50 22 to 36 in.... " 7 25	Big Lift40% Tiger40%	LEADERS, CATTLE. Nos..... 51 52 Per doz.....\$1 35 1 45
GRINDSTONES. Inches.. 7 8 10 12 Per doz. 20 50 21 75 24 25 30 50	Screw Hook and Eye. ¼ in.....per doz. pair \$2 00 ½ in..... " 3 50 ¾ in..... " 5 00	Standard, Nos. 1 2 Each\$0 60 \$1 00 R-W	LEATHER, LACK. Rawhide ¾"100 ft. \$2 60 " ½" " 4 40
GRINDSTONES. Inches.. 7 8 10 12 Per doz. 20 50 21 75 24 25 30 50	HOES. GardenNet	KETTLES. Brass15% Cauldron40&5% Copperper lb. 27 Maslin40&10% Sugar50%	LEATHERS, PUMP. Valve and Plunger.....10%
GRINDSTONES. Inches.. 7 8 10 12 Per doz. 20 50 21 75 24 25 30 50	Hammer. With plate.....per doz. 1 10 With screw..... " 1 00	Standard, Nos. 1 2 Each\$0 60 \$1 00 R-W	LIFTERS. Stove Cover. Coppered..per gro. \$2 25 to 5 40 Alaska..... " 8 f Alaska..... " 10
GRINDSTONES. Inches.. 7 8 10 12 Per doz. 20 50 21 75 24 25 30 50	Hammer. With plate.....per doz. 1 10 With screw..... " 1 00	Standard, Nos. 1 2 Each\$0 60 \$1 00 R-W	LINES. 60-ft. Jute.....per doz. \$0 95 60-ft. Sisal..... " 40 50-ft. Cotton..... " 15 50-ft. Braided Cot- ton 35

LINING, STOVE.	NAIL SETS.	PARERS.	Lineman's Side Cutting.
Bricksper crate 42c	See Sets.	Apple.	Berg's
		Goodell'sper doz. \$10 80	(Swedish). In. 6 7 8
		Turntable 11 40	Blk. Pol. Face, doz.\$10 70 20 00 23 35
		White Mountain " 8 40	
		Reading No. 78 " 11 40	
		Potato.	
		Goodell's Saratoga, 10% In. doz. 6 50	Long Nose Side Cutting.
		Goodell's Saratoga, 5 In. doz. 5 50	Berg's (Swedish) In. 5 6
			Blk. Pol. Face, doz. \$12 25 15 20

PUTTY. Strictly pure...per 100 lbs. \$6 00	SAWS. Band. Disston's 2-in. to 18-in. 10&5% " 1/4-in. to 1 1/2-in. 20&10%	SETS. Nail. Square head...per doz. 1 84 Cup point, knurled " 1 78	SPRINKLERS, LAWN. Stearn's No. 1....per doz. \$11 50
RAIL. Barn Door. Matchless, 1-in..... 5c Matchless, 1 1/4-in..... 7c Storm King 5c	Butchers'. Disston's No. 2, 14-in.... 18 20 " No. 2, 18-in.... 19 50 " No. 2, 22-in.... 20 85 " No. 7, 16-in.... 20 00 " No. 7, 20-in.... 21 35 " No. 7, 24-in.... 23 35 " No. 7, 28-in.... 26 00	Rivet. Farmers'per doz. 2 50 Tinners' 3-4 5 75 " 00-0 8 75	SQUARES. Steel and Iron.....Net (Add for bluing, \$3.00 per doz. net) MitreNet Try and Bevel....." Try and Miter....." Nets Fox'sper doz. \$6 00 Winterbottom's10%
Sliding Door. Bronzed wrought iron,per ft. 8 1/2c	Compass. Disston's No. 20 Jackson... 4 30 " No. 40 Sampson. 2 60 " No. 277, 10-in... 6 70 " No. 9, 10-in.... 7 70	Saw. Aiken's Pattern...per doz. \$6 50 Disston's Monarch " 7 20 Disston's X-cut " 13 50 Leach's " " 30 Nash's Hand " 3 15 Nash's X-cut " 4 20 Stillman's Lever " 1 30 Stillman's X-cut " 2 50 Whiting Pattern, " 7 50 No. 21 Eccentric Anvil, Hand No. 395, N. P. Morrill Pat- tern 14 50	SQUEEZERS, LEMON. Common Wood....per doz. \$0 70 Porcelain Lined, Wood " 1 35 Boss, malleable iron " 1 30 Iron frame porcn " 1 90 bowl Iron frame, glass " 2 35 bowl Little Giant, tin'd " 4 00 Iron, japanned " 3 60 Drum, nickel plated. " 4 50
RAKES. Garden. Steel, Bow, 12-in. Teeth \$8 50 Steel, Bow, 14-inch " 9 25 Malleable Iron, 12-in. " 4 75 Malleable Iron, 14-in. " 5 00	Cross-Cut. Disston's No. 289, 4-ft... 3 50 " No. 289, 6-ft... 6 85 " No. 289, 8-ft... 11 85	SHARPENERS, SKATE. Diamondper doz. \$1 60 Perfect 1 20	STAPLES. Blind. Barbedper lb. 21@22c Butter, Tub 16@19c
Hay. Wood, 10 Teeth.....\$4 00	Flooring. Disston's D19, 16-in..... 27 15 " D19, 20-in..... 34 35	SHEARS. Nickel Plated, Straight, 6" Per Doz. \$12 90 " " " 7" 14 85 " " " 8" 16 30 Japanned, Straight " 6" 11 00 " " " 7" 12 40 " " " 8" 13 80	Fence— Polishedper 100 lbs. \$5 45 Galvanized " 4 15
RAZORS—SAFETY. Gilletteper doz. \$45 00 Auto Strop 45 00 Gem 3 40 Gem (3 doz. lots) " 3 00 Ever Ready 3 40 Ever Ready (3 doz. lots) " 3 00	Hand and Rip. Disston's No. 7, 30-in.... 38 50 " No. 7, 32-in.... 42 90 " No. 8, 16-in.... 21 35 " No. 8, 20-in.... 25 15 " No. 8, 24-in.... 29 60 " No. 8, 28-in.... 34 45 " No. 8, 30-in.... 39 90 KeystoneNew Nets	SHEAVES, SLIDING DOOR. Common. Inches 3 4 5 Per set\$1 40 1 75 2 40	Netting. Galvanizedper 100 lbs. \$ 50
RAZOR STROPS. Star (Honing)50%	Keyhole. Disston's No. 5..... 3 65 " No. 10..... 4 00 " No. 95..... 6 20	SHELLERS, CORN. Unionper doz. \$6 75	Wrought. Wrought Staples, Hasps and Staples, Hasps, Hooks and Staples, and Hooks and Staples50&10% Extra heavy35%
REGISTERS. Cast Iron30% Steel and Semi-Steel.....30% Baseboard30% Adjustable Ceiling Ventilators 20%	Miter Box. Disston's No. 4, 4x20-in.. 36 15 " No. 4, 5x22-in.. 43 25 " No. 4, 6x22-in.. 47 20	SHIELDS. Expansion Bolt Shields.....60%	STONES. Hindostanper lb. New Nets More Grit " " Washita " "
REGISTER FACES. Japanned, Bronzed and Plated. 4x6 to 14x14.....30% 14x14 to 38x42.....50%	Patternmakers'. Disston's 7 1/4-in 12 05	SHINGLES. Zinc (Illinois).....Per Square \$15 00	Emery. No. 126.....per doz. New Nets
REVOLVERS. Iver Johnson Safety Automatic HammerNet Hammerless I. J. Model 199....."	Pruning. Disston's No. 20..... 20 80	SHOES. Conductor60%	Oil—Mounted. Arkansas Hard No. 7.....per doz. New Nets Arkansas Soft " " Washita No 717. " "
RINGS AND RINGERS. Copper2 1/4-in. 3-in. Per doz.\$2 40 \$2 65 Ross's Improved Self- Pivoting copper,doz. \$ 40 Steel, per doz..... 1 50 1 80	Stairbuilders'. Disston's 6-in. 7 90	SHOT—See Ammunition. SHOVELS AND SPADES. Coal. Hubbard's No. A B C D 1 \$16 00 15 10 14 45 13 70 2 16 35 15 60 14 85 14 10 3 16 75 16 00 16 25 14 45 4 17 10 16 35 16 60 14 85	Oil—Unmounted. Arkansas Hard per lb. New Nets Arkansas Soft. " " Lilly White.... " " Queer Creek.... " " Washita " "
Mag. Blair's Rings.....per doz. \$ 75 Blair's Ringers.. " 1 00 Brown's Ringers.. " 72 Brown's Ringers.. " 1 00 RUI's Ringers.... " 72 Hill's Ring, boxes " 60 Major Rings " 60 Perfect Ringers " 1 50 Wolverine Rings " 1 10 Wolverine Ringers " 1 10	Wood. Disston's No. 111, 30-in.. 22 20 " No. 111, 32-in.. 22 75 " No. 47, 30-in.. 20 25 " No. 47, 32-in.. 20 80	SHOT—See Ammunition. SHOVELS AND SPADES. Coal. Hubbard's No. A B C D 1 \$16 00 15 10 14 45 13 70 2 16 35 15 60 14 85 14 10 3 16 75 16 00 16 25 14 45 4 17 10 16 35 16 60 14 85	Scythe. Black Diamond per gro. New Nets Crescent " " Green Mountain " " LaMolle " " Extra Quinne- bog " " Red End " "
FRUIT JAR. Whiteper lb. 30	Saw FRAMES. Common, plain....per doz. \$1 50 Common, painted " 2 10	SCISSORS. Star60%	Screws. Commonper doz. \$1 50 Common, painted " 2 10
KEY. Split, round.....per doz. \$0 17 Split, square " 32 Nail round " 40	SCISSORS. Star60%	SCOOPS. Hubbard Western Pattern Riveted. Size. A B C D 1 \$16 75 16 00 15 25 14 45 4 " 17 85 17 10 16 35 15 60 6 " 18 65 17 85 17 10 16 35	Screws. Commonper doz. \$1 50 Common, painted " 2 10
KEY. Split, round.....per doz. \$0 17 Split, square " 32 Nail round " 40	SCISSORS. Star60%	SCRAPERS. Box. Triangular, No. 6 per doz. \$6 25	Screws. Commonper doz. \$1 50 Common, painted " 2 10
RIVETS. Copper Belt....Add 15% to list Coppered Iron30% Tinners'30%	SCISSORS. Star60%	SCREEN DOOR HINGES. Cast irongross \$13 00 Steel " 8 50	Screws. Commonper doz. \$1 50 Common, painted " 2 10
ROPE. Cotton. 1/4, 5-16 in. Com. on reels, per lb.\$1c 1/4, 5-16 in. Com. in coils, per lb.\$1c	SCISSORS. Star60%	SCISSORS. Star60%	Screws. Commonper doz. \$1 50 Common, painted " 2 10
ROPE. Cotton. 1/4, 5-16 in. Com. on reels, per lb.\$1c 1/4, 5-16 in. Com. in coils, per lb.\$1c	SCISSORS. Star60%	SCISSORS. Star60%	Screws. Commonper doz. \$1 50 Common, painted " 2 10

TAPES, MEASURING.

Ases' Skin.....List&40%

THERMOMETERS.Tin Case.....per doz. 80c@ \$ 1 25
Wood Back.. " \$2 00@ 12 00
Glass" 12 00**TIES.**Bale.
Single Loop, carload
lots75&7%
Single Loop, less than
car lots.....70&15%**TOOLS, SAW.**

Disston's Universal.....10%

TRAPS.Game with Chains. Per doz.
Victor No. 1.....\$2 01
Onsida Jump No. 1..... 2 75
Newhouse No. 1..... 5 62Mouse and Rat. Net per gross
Out O'Sight Mouse.....\$ 2 20
" " Rat 21 00
" " Mole140 00
No. 44 Pocket Gopher..... 28 00
Victor Mouse..... 3 64
Held Fast Mouse..... 3 64
Victor Rat..... 15 40
Held Fast Rat..... 15 40
Official Rat..... 18 90
Wood Choker Mouse, 4
Holes 15 40**TROWELS.**Brick.
Clover Leaf.....30%
Brade's15&5%
Disston's30%
Rose'sNetPlasterers'.
Clover Leaf.....40%
Disston's25%
W. & McP.....Net**TRUCKS.**Bageach \$3 75
Warehouse or store,
No. 1, each.....\$24 50
No. 2, " 22 50**TUBS, WASH.**Standard, Wood. Ex.
Nos. 2 2 1 large
Per doz. \$9 50 11 25 12 75 15 50Galvanized.
No. 1 2 3
Per doz.....13 75 15 95 18 60**TWINE.**-ply Cotton Wrapping.....\$0 85
4 " Extra Wrapping..
4 " Hvy. Wrapping..
4 " Wrapping on tubes
2 " cones..
4 " " "
India Hemp, 1/2-lb. balls,
No. 4 1/2.....36c
No. 635c
No. 833c
No. 18
2-ply Jute, 1 1/2-lb. balls, lb.....49cSelsa.
Softper lb.....Net
Med. " "
Hard " "
Staging, 1/2-lb. ball, size 21 " 24 "
" " " " 27 " 27 "
Bagging, 1/2-lb. ball, size " " "
3-ply "B" in hanks..... " "
4- " " " " " " "
3- " " " " " " "
2- " " " " " " "
Silver Finish in hanks "**VICES.**No. 700, Hand,
Inches 4 1/2 5 5 1/2
Dox.\$11 15 13 00 14 85
No. 701, In. 4 5 6
Dox.\$11 15 13 00 16 70
No. 1, Genuine Wentworth,
Noiseless Saw.....per doz. 15 00
No. 2, Genuine Wentworth,
Noiseless Saw.....per doz. 22 50
No. 3, Genuine Wentworth,
Noiseless Saw.....per doz. 20 00
No. 500, All Steel Folding
Sawper doz. 16 00**WARE.**Glue Pots.
Tinned.....Add 15% to list
Enameled.....30%**WASHERS.**Standard O. G. cast iron, per
lb.3%
Wrought steel in 5-lb. boxes,
per lb.:
In 3/16 1/4 5/16 3/8 1/2
18c 16c 15c 13c 12c
1 1/2c 11c 11c 11c 11c**WEDGES.**Ax.per doz. Nets
Gallingper lb. Nets
Sawper lb. 3 1/2**WEANERS.**Calf.
Fuller's, per doz. \$2 00 to \$ 2 50
Tyler's Safety, per
doz. 1 85 to 2 40
Carroll's, per doz. 3 00 to 3 75
Hoosier, per doz. 3 50 to 4 60
Shaw Perfected.. 3 00 to 3 75**WEIGHTS.**Hitching.....per lb. Nets
Sash—f. o. b. Chicago.
Ton lots, per ton.....\$73 00
Smaller lots, per ton..... 75 00**WHEEL BARROWS.**No. 4 Tubular Steel.....\$33 00
Common Tray or Stave
Tray 4 00
Angle leg, garden..... 6 50**WHEELS.**Carborundum50%
Emery60%
Well, Ins..... 8 10 12
Per doz.....\$5 50 7 25 8 50
12-in. heavy hoisting,
per doz.....\$25 00**WIRE.**Brass.
In coils.....Nets
In 1-lb. spools, new list..Nets
Broom—TinnedNetsCopper.
In coils.....Nets
1-lb. spools, new list.....NetsFence—Smooth. Annealed Galv'd
Nos. 6 to 9, less than
car, per 100 lbs. \$4 25 \$4 95
Hair—New list.....40 & 10%
Picture—In coils..\$80 & 10%
In 5-lb. spools...per lb.....25c**WRENCHES.**Coes Steel Handle, 6-inch.....30%
" " " 8- "30%
" " " 10- "30%
" " " 12- "30%
Coes Knife-Handle, 6- "30%
" " " 8- "30%
" " " 10- "30%
" " " 12- "30%
Coes All Patterns.....30%
Bemis & Call's:
Adjustable S, 10% Adjustable
S Pipe, 10%: Briggs'
pattern30%
Combination Bright.....25%
Steel Handle Nut.....30%
Combination Black.....25&5%
Merrick Pattern.....30%**Knife Handle Pattern.**No. 62, Screw Wrench, List
plus30%
No. 60, Steel Handle.....30%**WRINGERS.**No. 790, Guarantee, per doz. \$63 50
No. 770, Bicycle ... " 61 00
No. 670, Domestic... " 56 00
No. 110, Brighton .. " 51 50
No. 750, Guarantee. " 63 50
No. 740, Bicycle ... " 61 00
No. 22, Pioneer .. " 49 00
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Cleveland, Ohio**Brackets.**Ajax Bracket and Outlet Co.,
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Chicago, Ill.Maplewood Machinery Co.,
Chicago, Ill.
Niagara Machine & Tool Wks.,
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Pittsburgh Pa.**Builders' Hardware.**

Bullard & Gormley, Chicago, Ill.

Castings—Malleable.

Fanner Mfg. Co., Cleveland, Ohio

Ceilings—Metal. Burton Co., W. J., Detroit, Mich. Friedley-Voshardt Co., Chicago, Ill. Hopson Co., W. C., Grand Rapids, Mich. Milwaukee Corrugating Co., Milwaukee, Wis. Northern Corrugating Co., Green Bay, Wis. Wheeling Corrugating Co., Wheeling, W. Va.	Enamels—Wood. Cornish & Co., J. B., Chicago, Ill. Federal Varnish Co., Chicago, Ill.	Heaters—Warm Air—Cont. May-Fiebeger Furnace Co., Newark, Ohio Meyer Furnace Co., Peoria, Ill. Monitor Stove Co., Cincinnati, Ohio Monroe Fdy. & Furnace Co., Monroe, Mich. Peerless Foundry Co., Indianapolis, Ind. Premier Warm Air Heater Co., Dowagiac, Mich. Rudy Furnace Co., Dowagiac, Mich. Rybolt Heater Co., Ashland, Ohio Scheible-Moncrief Heater Co., Cleveland, Ohio Schill Bros. Co., Crestline, Ohio Schwab & Sons Co., R. J., Milwaukee, Wis. Standard Furnace & Supply Co., Omaha, Neb. St. Louis Heating Co., St. Louis, Mo. Waterloo Register Co., Waterloo, Iowa Wellston Mfg. Co., Wellston, Ohio Wise Furnace Co., Akron, Ohio	Nails—Slatting. Hussey & Co., C. G., Pittsburgh, Pa.
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Chaplets. Fanner Mfg. Co., Cleveland, Ohio	Fencing Wire. Pittsburgh Steel Co., Pittsburgh, Pa.	Files. Heller Bros. Co., Newark, N. J.	Nut Crackers. Enterprise Mfg. Co. of Pa., Philadelphia, Pa.
Chisels. Vaughan & Bushnell Mfg. Co., Chicago, Ill.	Flux—Aluminum. Roesch, Geo. E., Aurora, Ill.	Freezers—Ice Cream. North Bros. Mfg. Co., Philadelphia, Pa.	Ornaments—Sheet Metal. Friedley-Voshardt Co., Chicago, Ill. Gerock Bros. Mfg. Co., St. Louis, Mo.
Clips—Damper. Carr Supply Co., Chicago, Ill. Waterloo Register Co., Waterloo, Iowa	Furnace Rings. Independent Reg. & Mfg. Co., Cleveland, Ohio Walworth Run Fdy. Co., Cleveland, Ohio	Garages—Metal. Wellman Supply Co., Springfield, Mass.	Patterns—Stove. Cleveland Castings Pattern Co., Cleveland, Ohio Quincy Pattern Co., Quincy, Ill. Shaw & Son Co., The Geo. E., Cleveland, Ohio Taft Metal Pattern & Mfg. Co., Cleveland, Ohio Vedder Pattern Works, Troy, N. Y.
Coal Chutes. Peerless Foundry Co., Indianapolis, Ind. Sykes Co., The, Chicago, Ill.	Guards—Fire. Meyers Mfg. Co., Fred J., Hamilton, Ohio	Incubators. Queen Incubator Co., Lincoln, Nebr.	Pipe and Fittings—Furnace. Carr Supply Co., Chicago, Ill. Central Heating Supply Co., Chicago, Ill. Excelsior Steel Furnace Co., Chicago, Ill. Henry Furnace & Fdy. Co., Cleveland, Ohio Lamneck Co., W. E., Columbus, Ohio Manny Heating Supply Co., Chicago, Ill. Meyer & Bro. Co., F., Peoria, Ill. Michigan Safety Furnace Pipe Co., Detroit, Mich. Standard Furnace & Supply Co., Omaha, Neb.
Coasters. The Auto-Wheel Coaster Co., Inc., No. Tonawanda, N. Y.	Hammers. Vaughan & Bushnell Mfg. Co., Chicago, Ill.	Indoor Closet. Independent Reg. & Mfg. Co., Cleveland, Ohio	Pipe and Fittings—Stove. Excelsior Steel Furnace Co., Chicago, Ill. Hemp & Co., St. Louis, Mo. Meyer & Bro. Co., F., Peoria, Ill. Sullivan-Geiger Co., Indianapolis, Ind.
Cores—Radiator, Auto Curfman Mfg. Co., F. L., Maryville, Mo. G. & O. Mfg. Co., New Haven, Conn.	Handles—Boiler. Berger Bros. Co., Philadelphia, Pa.	Jobbers—Hardware. Bullard & Gormley Co., Chicago, Ill. Clark-Smith Hardware Co., Peoria, Ill.	Pipe—Conductor Berger Bros. Co., Philadelphia, Pa. Burton Co., W. J., Detroit, Mich. Clark-Smith Hdw. Co., Peoria, Ill. Dieckmann Co., Ferdinand, Cincinnati, Ohio Friedley-Voshardt Co., Chicago, Ill. Hussey & Co., C. G., Pittsburgh, Pa. Lupton's Sons Co., David, Philadelphia, Pa. Milwaukee Corrugating Co., Milwaukee, Wis.
Cornices. Burton Co., W. J., Detroit, Mich. Friedley-Voshardt Co., Chicago, Ill. Milwaukee Corrugating Co., Milwaukee, Wis.	Handles—File. Parker Supply Co., New York, N. Y.	Machines—Crimping. Bertsch & Co., Cambridge City, Ind. Niagara Machine & Tool Works, Buffalo, N. Y.	Polish—Metal and Stove. Black Silk Stove Polish Co., Sterling, Ill.
Cut-Offs—Rain Water. Sullivan-Geiger Co., Indianapolis, Ind.	Hangers—Eaves Trough. Abbott Mfg. Co., Cleveland, Ohio W. C. Hopson Co., Grand Rapids, Mich.	Machinery—Culvert. Bertsch & Co., Cambridge City, Ind.	Posts—Steel Fence. American Steel & Wire Co., Chicago, Ill.
Display Stands—Vise. Prentiss Vise Co., New York, N. Y.	Heaters—School Room. Hammond Heating Co., Cincinnati, Ohio Haynes-Langenberg Mfg. Co., St. Louis, Mo. Meyer Furnace Co., Peoria, Ill. Monroe Fdy. & Furnace Co., Monroe, Mich. Peerless Foundry Co., Indianapolis, Ind. Standard Furnace & Supply Co., Omaha, Neb.	Machines—Razor Blades. Hyfield Mfg. Co., New York, N. Y.	Presses—Lard. Enterprise Mfg. Co. of Pa., Philadelphia, Pa.
Dry Paste. Carr Supply Co., Chicago, Ill.	Heaters—Warm Air. American Furnace Co., St. Louis, Mo. Black Diamond Furnace Co., Monmouth, Ill. Carr Supply Co., Chicago, Ill. Central Heating Supply Co., Chicago, Ill. Cooperative Foundry Co., Rochester, New York Excelsior Steel Furnace Co., Chicago, Ill. Forest City Fdy. & Mfg. Co., Cleveland, Ohio Haynes-Langenberg Mfg. Co., St. Louis, Mo. Hall-Neal Furnace Co., Indianapolis, Ind. Hammond Heating Co., Cincinnati, Ohio Henry Furnace & Fdy. Co., Cleveland, Ohio Hess-Snyder Co., Massillon, Ohio Independent Stove Co., Owaso, Mich. Lennox Furnace Co., Marshalltown, Iowa Mahoning Fdy. Co., Youngstown, Ohio Manny Heating Supply Co., Chicago, Ill.	Machines—Stove Pipe. Hemp & Co., St. Louis, Mo.	Punches. Bertsch & Co., Cambridge City, Ind. Niagara Machine & Tool Wks., Buffalo, N. Y. Whitney Mfg. Co., W. A., Rockford, Ill.
Dumb Walters. Sedgwick Machine Works, New York, N. Y.	Elbows and Shoes—Conductor. American Rolling Mill Co., Middletown, Ohio Dieckmann Co., Ferdinand, Cincinnati, Ohio Lupton's Sons Co., David, Philadelphia, Pa. Milwaukee Corrugating Co., Milwaukee, Wis. Northern Corrugating Co., Green Bay, Wis.	Mailing Lists. Ross-Gould, St. Louis, Mo.	Punches—Combination Bench and Hand Parker Supply Co., New York, N. Y.
Eaves Trough. Abbott Mfg. Co., Cleveland, Ohio Berger Bros. Co., Philadelphia, Pa. Burton Co., The W. J., Detroit, Mich. Clark-Smith Hardware Co., Peoria, Ill. Lupton's Sons Co., David, Philadelphia, Pa. Milwaukee Corrugating Co., Milwaukee, Wis. Northern Corrugating Co., Green Bay, Wis.	Elevators—Hand and Power. Kimball Bros. Co., Council Bluffs, Iowa Sedgwick Machine Works, New York, N. Y.	Meat and Food Choppers. Enterprise Mfg. Co. of Pa., Philadelphia, Pa.	Punches—Hand. Parker Supply Co., New York, N. Y.
Enamel—Iron. Black Silk Stove Polish Works, Sterling, Ill.	Enamel—Wood. Cornish & Co., J. B., Chicago, Ill. Federal Varnish Co., Chicago, Ill.	Metal Perforated. Harrington & King Perforating Co., Chicago, Ill.	
	Miters. Friedley-Voshardt Co., Chicago, Ill.		

Quadrants—Damper

Parker Supply Co.,
New York, N. Y.

Ranges—Combination Gas & Coal

Quick Meal Stove Co.,
St. Louis, Mo.

Ranges—Gas.

Quick Meal Stove Co.,
St. Louis, Mo.

Rasps.

Heller Bros.,
Newark, N. J.

Refrigerators—Iceless.

Sedgwick Machine Works,
New York, N. Y.

Register Shields.

Hall-Neal Furnace Co.,
Indianapolis, Ind.

Registers—Warm Air.

Carr Supply Co.,
Chicago, Ill.

Excelsior Steel Furnace Co.,
Chicago, Ill.

Hart & Cooley Co.,
New Britain, Conn.

Henry Furnace & Fdy. Co.,
Cleveland, Ohio

Independent Reg. & Mfg. Co.,
Cleveland, Ohio

Manny Heating Supply Co.,
Chicago, Ill.

Marsh Lumber Co.,
Dover, Ohio

Rock Island Register Co.,
Rock Island, Ill.

Standard Furnace & Supply Co.,
Omaha, Neb.

Stearns Register Co.,
Detroit, Mich.

Tuttle & Bailey Mfg. Co.,
Chicago, Ill.

Walworth Run Fdy. Co.,
Cleveland, Ohio

Waterloo Register Co.,
Waterloo, Iowa

Regulators—Damper

Parker Supply Co.,
New York, N. Y.

Repairs—Stove & Furnace.

Hessler Co., H. E., Syracuse, N. Y.

Northwestern Stove Repair Co.,
Chicago, Ill.

Ridging.

American Rolling Mill Co.,
Middletown, Ohio

Rivets—Stove.

Kirk-Latty Mfg. Co.,
Cleveland, Ohio

Roasters.

Lalanc & Grosjean Mfg. Co.,
Chicago, Ill.

Rod Clips—Damper.

Parker Supply Co.,
New York, N. Y.

Rods—Stove.

Kirk-Latty Mfg. Co.,
Cleveland, Ohio

Rolls—Forming.

Bertsch & Co.,
Cambridge City, Ind.

Niagara Machine & Tool Wks.,
Buffalo, N. Y.

Roof—Flashing.

Hessler Co., H. E., Syracuse, N. Y.

Roofing—Iron and Steel

Burton Co., W. J., Detroit, Mich.

Cortright Metal Roofing Co.,
Philadelphia, Pa.

Friedley-Voshardt Co.,
Chicago, Ill.

Inland Steel Co.,
Chicago, Ill.

Milwaukee Corrugating Co.,
Milwaukee, Wis.

Wheeling Corrugating Co.,
Wheeling, W. Va.

Roofing—Zinc

American Zinc Products Co.,
Greencastle, Ind.

Illinois Zinc Co.,
New York, N. Y.

Rubbish Burners.

Hart & Cooley Co.,
New Britain, Conn.

Sal-Ammoniac—Solid

Special Chemicals Co.,
Highland Park, Ill.

Schools—Heating and Ventilating Engineering.

Cleveland Engineering Institute,
Cleveland, Ohio

Schools—Sheet Metal Pattern Drafting.

St. Louis Technical Institute,
St. Louis, Mo.

Screens—Perforated Metal

Harrington & King Perforating
Co.,
Chicago, Ill.

Screws—Sheet Metal.

Carr Supply Co.,
Chicago, Ill.

Parker Supply Co.,
New York, N. Y.

Screw Drivers.

Hultberg, John E.,
Warren, Pa.

North Bros. Mfg. Co.,
Philadelphia, Pa.

Sheets—Black and Galvanized.

American Rolling Mill Co.,
Middletown, Ohio

Inland Steel Co.,
Chicago, Ill.

Knoedler, Frederick J.,
Philadelphia, Pa.

Sykes Co., The,
Chicago, Ill.

Sheets—Iron.

American Rolling Mill Co.,
Middletown, Ohio

Sheets—Steel.

Sykes Co., The,
Chicago, Ill.

Shingles—Zinc.

Illinois Zinc Co.,
New York, N. Y.

Sifters—Ash.

Diener Mfg. Co., G. W.,
Chicago, Ill.

Sifters—Flour.

Meyers Mfg. Co., Fred J.,
Hamilton, Ohio

Skylights.

Burton Co., W. J., Detroit, Mich.

Northern Corrugating Co.,
Green Bay, Wis.

Sykes Co., The,
Chicago, Ill.

Slabs—Zinc.

Illinois Zinc Co.,
New York, N. Y.

Slids.

The Auto-Wheel Coaster Co., Inc.,
No. Tonawanda, N. Y.

Smoke Pipe—Cast Iron

Manny Heating Supply Co.,
Chicago, Ill.

Waterloo Register Co.,
Waterloo, Iowa

Snips—Tinsmiths.

Niagara Machine & Tool Wks.,
Buffalo, N. Y.

Solder—Aluminum.

Roesch, Geo. E.,
Aurora, Ill.

Soldering Fluxes.

Special Chemicals Co.,
Highland Park, Ill.

Soldering—Furnaces.

Ashton Mfg. Co.,
Newark, N. J.

Berns Co., Otto,
Newark, N. J.

Burgess Soldering Furnace Co.,
Columbus, Ohio

Clayton & Lambert Mfg. Co.,
Detroit, Mich.

Diener Mfg. Co., G. W.,
Chicago, Ill.

Double Blast Mfg. Co.,
North Chicago, Ill.

Hones, Inc., Chas. A.,
Baldwin, Long Island, N. Y.

Quick Meal Stove Co.,
St. Louis, Mo.

Turner Brass Works,
Sycamore, Ill.

Soldering Irons—Self Heating

Everhot Mfg. Co.,
Maywood, Ill.

Soldering Pasts.

Special Chemicals Co.,
Highland Park, Ill.

Specialties—Hardware.

Bullard & Gormley,
Chicago, Ill.

Diener Mfg. Co., G. W.,
Chicago, Ill.

Enterprise Mfg. Co. of Pa.,
Philadelphia, Pa.

Heller Bros. Co.,
Newark, N. J.

Hessler Co., H. E.,
Syracuse, N. Y.

Hultberg, John E.,
Warren, Pa.

Hyfield Mfg. Co.,
New York, N. Y.

North Bros. Mfg. Co.,
Philadelphia, Pa.

Parker Supply Co.,
New York, N. Y.

Vaughan & Bushnell Mfg. Co.,
Chicago, Ill.

Wellston Mfg. Co.,
Wellston, Ohio

Sporting Goods.

Bullard & Gormley,
Chicago, Ill.

Stains—Oil and Acid.

Federal Varnish Co.,
Chicago, Ill.

Stars—Hard Iron Cleaning.

Fanner Mfg. Co.,
Cleveland, Ohio

Statuary.

Friedley-Voshardt Co.,
Chicago, Ill.

Geroch Bros. Mfg. Co.,
St. Louis, Mo.

Stock Tanks.

Northern Corrugating Co.,
Green Bay, Wis.

Stoves—Camp.

Quick Meal Stove Co.,
St. Louis, Mo.

Stoves—Gasoline and Kerosene.

Quick Meal Stove Co.,
St. Louis, Mo.

Stoves and Ranges.

Howard Stove & Furnace Co.,
Ralston, Nebr.

Independent Stove Co.,
Owosso, Mich.

Quick Meal Stove Co.,
St. Louis, Mo.

Schill Bros. Co.,
Crestline, Ohio

Stove Pipe Reducer.

Sullivan-Geiger Co.,
Indianapolis, Ind.

Stuffers—Sausage.

Enterprise Mfg. of Pa.,
Philadelphia, Pa.

Supports—Ladder.

Wellman Supply Co.,
Springfield, Mass.

Tacks, Staples, Spikes.

American Steel & Wire Co.,
Chicago, Ill.

Tiles and Shingles—Metal.

American Zinc Products Co.,
Greencastle, Ind.

Burton Co., W. J.,
Detroit, Mich.

Cortright Metal Roofing Co.,
Philadelphia, Pa.

Hopson Co., W. C.,
Grand Rapids, Mich.

Milwaukee Corrugating Co.,
Milwaukee, Wis.

Tinplate.

Knoedler, Frederick J.,
Philadelphia, Pa.

Wheeling Corrugating Co.,
Wheeling, W. Va.

Tin—Perforated.

Harrington & King Perforating
Co.,
Chicago, Ill.

Tools—Auto Repair.

Curtman Mfg. Co., F. L.,
Maryville, Mo.

Tools—Carpenter.

Hultberg, John E.,
Warren, Pa.

North Bros. Mfg. Co.,
Philadelphia, Pa.

Vaughan & Bushnell Mfg. Co.,
Chicago, Ill.

Tools—Tinsmiths.

Bertsch & Co.,
Cambridge City, Ind.

Dreis & Krump Mfg. Co.,
Chicago, Ill.

Knoedler, Frederick J.,
Philadelphia, Pa.

Everhot Mfg. Co.,
Maywood, Ill.

Hopson Co., W. C.,
Grand Rapids, Mich.

Maplewood Machinery Co.,
Chicago, Ill.

Marshalltown Mfg. Co.,
Marshalltown, Iowa

Niagara Machine & Tool Wks.,
Buffalo, N. Y.

Vaughan & Bushnell Mfg. Co.,
Chicago, Ill.

Viking Shear Co.,
Erie, Pa.

Whitney Mfg. Co., W. A.,
Rockford, Ill.

Torches.

Ashton Mfg. Co.,
Newark, N. J.

Berna Co., Otto,
Newark, N. J.

Burgess Soldering Furnace Co.,
Columbus, Ohio

Clayton & Lambert Mfg. Co.,
Detroit, Mich.

Diener Mfg. Co., G. W.,
Chicago, Ill.

Double Blast Mfg. Co.,
North Chicago, Ill.

Everhot Mfg. Co.,
Maywood, Ill.

Hones, Inc., Chas. A.,
Baldwin, Long Island, N. Y.

Quick Meal Stove Co.,
St. Louis, Mo.

Turner Brass Works,
Sycamore, Ill.

Transit Companies

Cleveland & Buffalo Transit Co.,
Cleveland, Ohio

Trimming—Stove.

Fanner Mfg. Co.,
Cleveland, Ohio

Valves—Humidifier.

Haynes,
Kansas City, Mo.

Varnishes.

Cornish & Co., J. B.,
Chicago, Ill.

Federal Varnish Co.,
Chicago, Ill.

Ventilators.

Berger Bros. Co.,
Philadelphia, Pa.

Friedley-Voshardt Co.,
Chicago, Ill.

Milwaukee Corrugating Co.,
Milwaukee, Wis.

Standard Ventilator Co.,
Lewisburg, Pa.

Ventilators—Ceiling.

Hart & Cooley Co.,
New Britain, Conn.

Henry Furnace & Fdy. Co.,
Cleveland, Ohio

Tuttle & Bailey Mfg. Co.,
Chicago, Ill.

Vises.

North Bros. Mfg. Co.,
Philadelphia, Pa.

Prentiss Vise Co.,
New York, N. Y.

Wagons—Auto-Wheel Coaster.

The Auto-Wheel Coaster Co., Inc.,
No. Tonawanda, N. Y.

Water Outlets.

Ajax Bracket and Outlet Co.,
Cleveland Heights, Ohio

Wire.

American Steel & Wire Co.,
Chicago, Ill.

Pittsburgh Steel Co.,
Chicago, Ill.

Wood Faces

Carr Supply Co.,
Chicago, Ill.

Marsh Lumber Co.,
Dover, Ohio

Wrenches.

Coes Wrench Co.,
Worcester, Mass.

Zinc.

American Zinc Products Co.,
Greencastle, Ind.

Illinois Zinc Co.,
New York, N. Y.

WANTS AND SALES

For paid yearly subscribers, **AMERICAN ARTISAN AND HARDWARE RECORD** will insert under this head advertisements of not more than fifty words **WITHOUT CHARGE**. Employers wishing to secure employes, parties desiring to purchase or sell business, secure partners, or to exchange, etc., will find that these pages offer excellent opportunities to satisfy their wants. Clerks and tinsmiths looking for situations will find it to their advantage to use these columns. Those who respond to these announcements please mention that they "READ THE ADVERTISEMENT IN AMERICAN ARTISAN AND HARDWARE RECORD."

BUSINESS CHANCES

Wanted to Buy—Tin and furnace shop in small town. Address B-13, care of **AMERICAN ARTISAN**, 620 South Michigan Avenue, Chicago, Illinois. 25-3t

Lightning Rods—Big profits and quick sales to live dealers selling "DIDDLE'S UNIVERSAL RODS." Our copper tests 99.96% pure. Prices are right—get our agency. L. K. Diddle Company, Marshfield, Wisconsin. 25-3t

For Sale—Good tin, furnace and auto radiator shop in good western town of 3,000. Doing good business, no other shop in town. Can be bought cheap. Address B-20, care of **AMERICAN ARTISAN**, 620 South Michigan Avenue, Chicago, Illinois. 26-3t

For Sale—Auto radiator and fender repairing shop in county seat town of 12,000. Good territory to work from. Must retire on account of ill health. \$400.00 cash takes it. A. B. Creacy, Klondike Auto Radiator Hospital, 209 Court Street, Pekin, Illinois. 24-3t

For Sale—One-half interest in tin and furnace shop. Good Minnesota town. Men are hard to get and the work is too much to handle alone. It won't take much to get in on this; better write quick. Address B-21, care of **AMERICAN ARTISAN**, 620 South Michigan Avenue, Chicago, Illinois. 26-3t

For Sale—Patent on ash can and the like. Mr. Lawrence Guldaman, New Jersey, inventor, would like to sell outright or on royalty the above titled invention for all territory of Wisconsin, also Michigan. Full specifications, etc., of this meritorious invention can be had by mail. L. Guldaman, 272 Twelfth Street, Jersey City, New Jersey. 26-3t

For Sale—Hardware, janitor supplies and electrical specialties store on one of the busiest streets of Chicago. South side near elevated station. Steady trade every day. Clean stock. Good opportunity for young man who is electrically inclined. \$4,000 cash. Address B-16, care of **AMERICAN ARTISAN**, 620 South Michigan Avenue, Chicago, Illinois. 26-3t

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Wanted—Men who know their trade from A to Z. That's the way the advertisements for Help Wanted start. You can learn more about your trade if you read good books on the subjects you are less familiar with. For a book covering the subject of Warm Air Heating thoroughly, you should read Snow's Furnace Heating. 234 pages. Price \$2.50. With **AMERICAN ARTISAN** one year (52 issues), \$3.85. Order your copy today from **AMERICAN ARTISAN**, 620 South Michigan Avenue, Chicago, Illinois.

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Wanted—A first class plumber at once. Come ready for work. No floaters need apply. Oleson Hardware Company, Elkhorn, Wisconsin. 24-3t

Wanted—Sheet Metal man, one who is familiar with Fan Blast System. Cuddy Plumbing & Heating Company, 634 South Front Street, Mankato, Minnesota. 24-3t

Help Wanted—There is a good job open for a tinner and furnace man at the Forest City Metal and Heating Company, 1512 14th Avenue, Rockford, Illinois. 26-3t

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Wanted—At once. A first class furnace man and all around tinner. Steady job the year around for the right man. Married man preferred. Lehman and Klock, Laporte City, Iowa. 24-3t

Wanted at Once—First class tinner and furnace man, must be good on outside and inside work. Steady job, union wages. Standard Sheet Metal Works, Water and Genesee Streets, Waukegan, Illinois. 25-3t

Wanted—Sheet Metal Workers for cornice, skylight, and general sheet metal work. Steady work for good men. Labor trouble. R. Jeske & Brother Company, 121 Reservoir Avenue, Milwaukee, Wisconsin. 24-ufn

Wanted—Tinner and automobile radiator man. Prefer one understanding pump and windmill work. Hot air furnace installing and some plumbing. Good shop and steady work for a good all around man. Manley Motor Company, Harvard, Illinois. 26-2t

Wanted—A first-class cornice and skylight man, not over 45 years of age. One that knows every branch of the sheet metal business. Must be quick and neat on job work. Apply at once if you can fill the bill. Harry T. Klugel, Box 123, North Emporia, Virginia. 26-3t

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Situation Wanted—By practical plumber and fitter with tools. Wants steady position. Would invest some money in a good shop. West preferred. Address B-17, care of **AMERICAN ARTISAN**, 620 South Michigan Avenue, Chicago, Illinois. 25-3t

Situation Wanted—By a Sheet Metal Worker with fifteen years' practical experience on inside and outside work. Can also do plumbing. Prefer steady job in small town. I am married. H. W. Griebel, care Schwartz Brothers, Boonville, Missouri. 23-4t

Situation Wanted—By first class tinner, plumber and heating man with 12 years' experience. Can lay out work and read blue prints. State wages and full particulars in first letter. Address B-13, care of **AMERICAN ARTISAN**, 620 South Michigan Avenue, Chicago, Illinois. 24-3t

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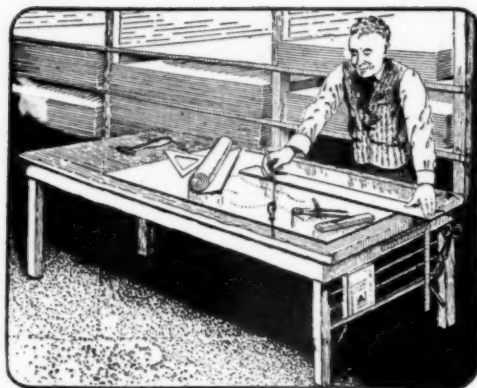
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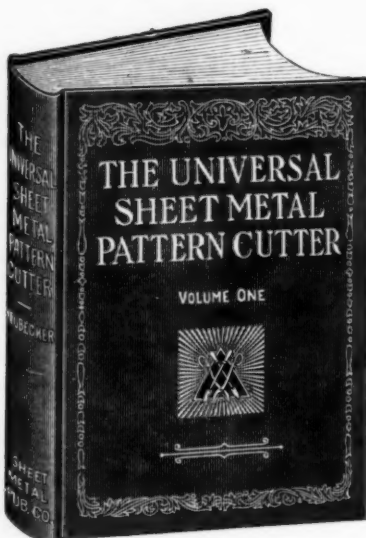
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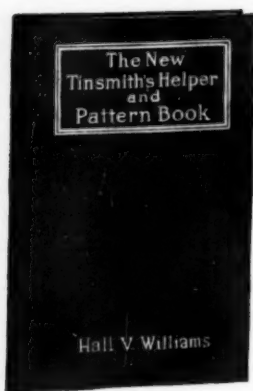
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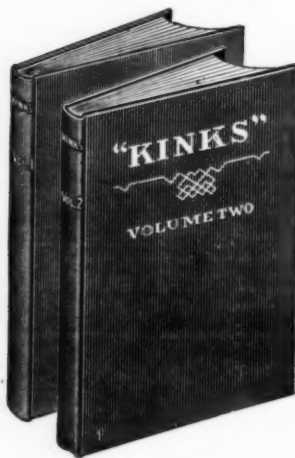


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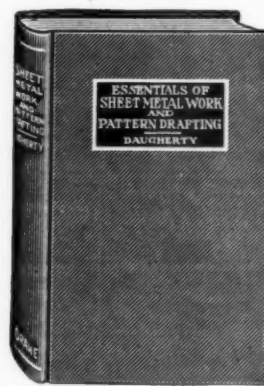
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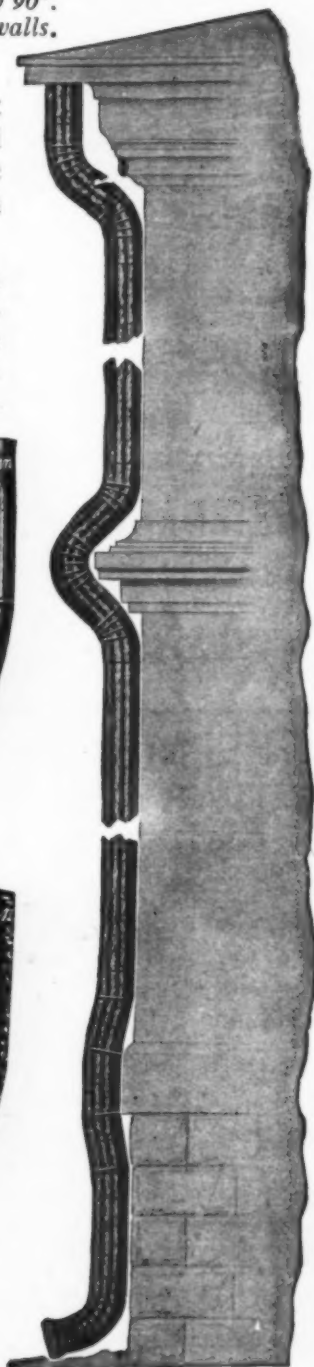
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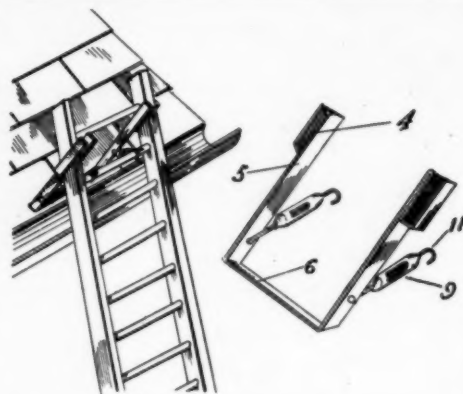
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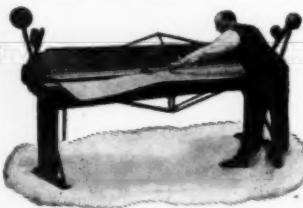
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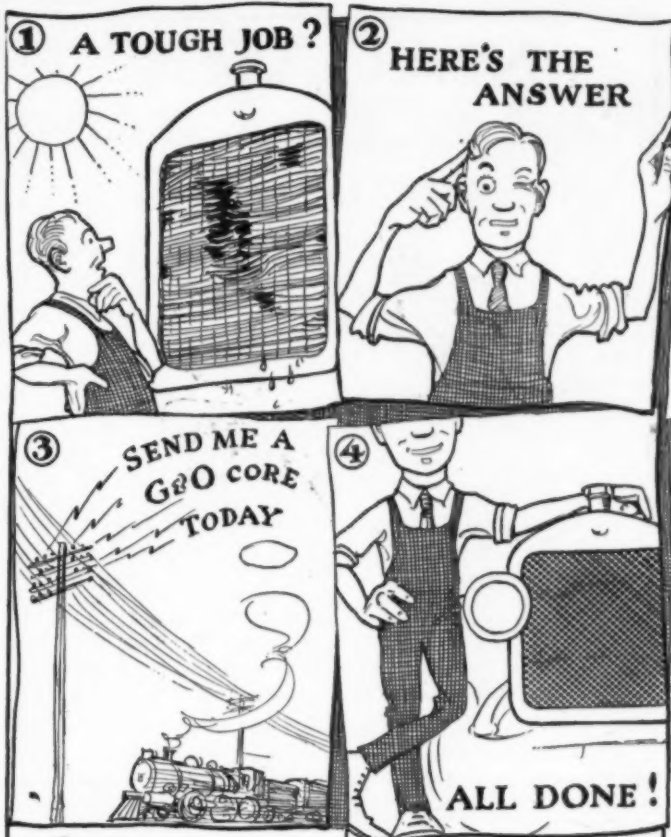
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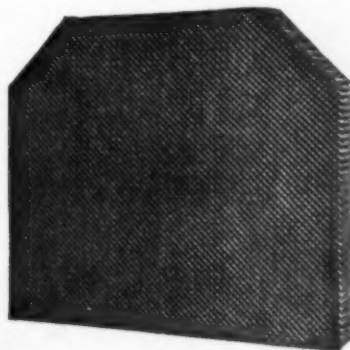
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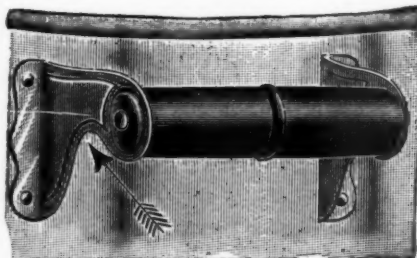
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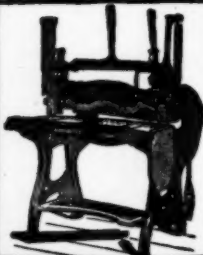
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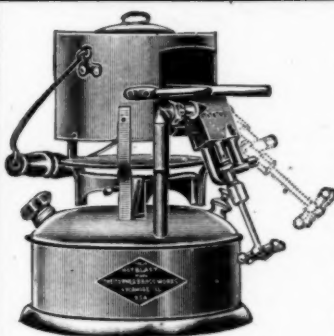
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Large flat flame of intense heat. Tank, heavy gauge steel, reinforced. Turner automatic Pump. The heaviest soldering coppers are heated and a pot of metal melted at the same time. THE BEST Furnace for general use.

All leading jobbers sell TURNER Furnaces and NEW LINE Blow Torches.

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Ashton Mfg Co.

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No. 208 Torch
List Price Each \$17.00
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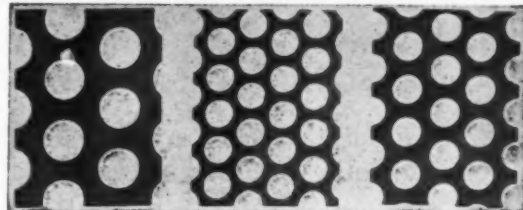
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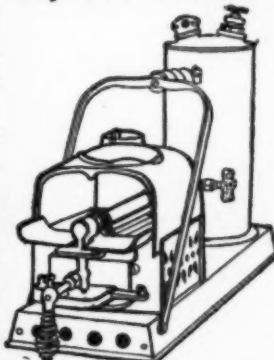
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Improved No. 3 Gem with pump.

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Write today for full details, illustrated circulars and prices.

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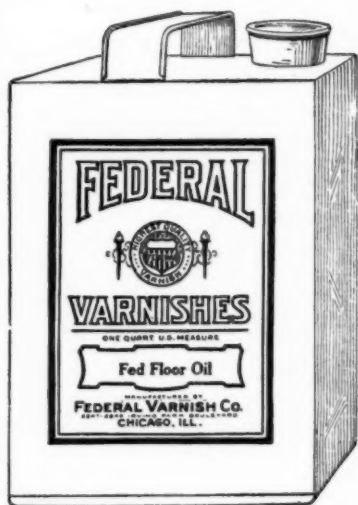
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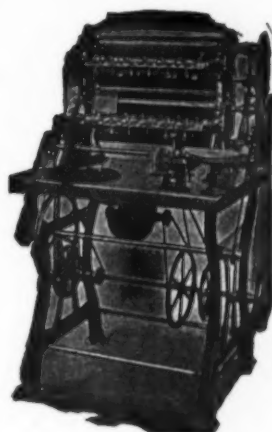
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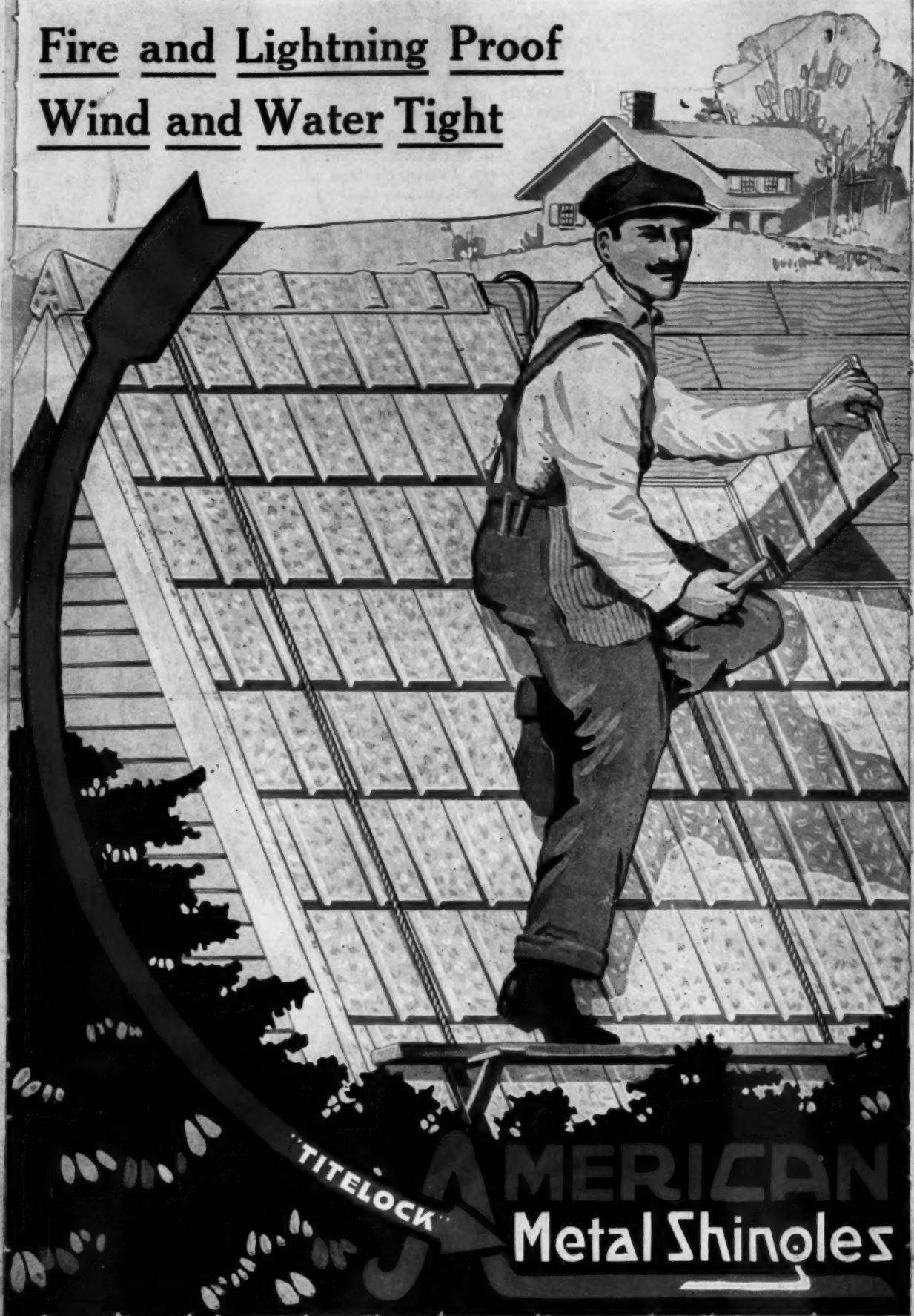
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